(2)

AFOEHL REPORT 89-119EQ0111JID

Installation Restoration Program

Information Management System (IRPIMS)

Data Loading Handbook

September 1989

Version 2.1

AF Occupational and Environmental Health Laboratory (AFSC)
Human Systems Division
Brooks Air Force Base, Texas 78235-5501

NOTICES

When Government drawings, specifications, or other data are used for any purpose other than a definitely related Government procurement operation, the Government incurs no responsibility or any obligation whatsoever. The fact that the Government may have formulated, or in any way supplied the drawing, specifications, or other data, is not to be regarded by implication, or otherwise, as in any manner licensing the holder or any other person or corporation; or conveying any rights or permission to manufacture, use, or sell any patented invention that may in any way be related thereto.

The mention of trade names or commercial products in this publication is for illustration purposes and does not constitute endorsement or recommendation for use by the United States Air Force.

The Public Affairs Office has reviewed this report, and it is releasable to the National Technical Information Service, where it will be available to the general public, including foreign nations.

This report has been reviewed and is approved for publication.

Air Force installations may direct requests for copies of this report to: Air Force Occupational and Environmental Health Laboratory (AFOEHL) Library, Brooks AFB TX 78235-5501.

Other Government agencies and their contractors registered with the DTIC should direct requests for copies of this report to: Defense Technical Information Center (DTIC), Cameron Station, Alexandria VA 22304-6145.

Non-Government agencies may purchase copies of this report from: National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield VA 22161

PHILIP HUNTER, GS-13
Chief, Environmental Data Support

ROBERT D. BINOVI, Lt Col, USAF, BSC
Chief, Environmental Quality Division

REPORT DOCUMENTATION PAGE

Form Approved OMB No. 0704-0188

1a. REPORT SECURITY CLASSIFICATION: Unclassified	1b. RESTRICTIVE MARKINGS: NA
2a. SECURITY CLASSIFICATION AUTHORITY: NA	3. DISTRIBUTION/AVAILABILITY OF REPORT: Distribution is unlimited; approved for public release
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE: NA	
4. PERFORMING ORGANIZATION REPORT NUMBER(S): AFOEHL 89-119EQ0111JID	5. MONITORING ORGANIZATION REPORT NUMBER(S)
6a. NAME OF PERFORMING ORGANIZATION: AF Occupational and Environmental Health Laboratory; 6b. OFFICE SYMBOL (If applicable): EQR	7a. NAME OF MONITORING ORGANIZATION
6c. ADDRESS (City, State, and ZIP Code): Brooks AFB TX 78235-5501	7b. ADDRESS (City, State, and ZIP Code)
8a. NAME OF FUNDING/SPONSORING ORGANIZATION: Same as 6a; 8b. OFFICE SYMBOL (If applicable)	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER
8c. ADDRESS (City, State, and ZIP Code): same as 6a	10. SOURCE OF FUNDING NUMBERS: PROGRAM ELEMENT NO. / PROJECT NO. / TASK NO / WORK UNIT ACCESSION NO

11. TITLE (Include Security Classification): Installation Restoration Program Information Management System (IRPIMS) Data Loading Handbook, Version 2.1

12. PERSONAL AUTHOR(S): Richard Anderson, Judith Vasil, Philip Hunter

13a. TYPE OF REPORT	13b. TIME COVERED	14. DATE OF REPORT (Year, Month, Day)	15. PAGE COUNT
Final	FROM _____ TO _____	September 1989	92

16. SUPPLEMENTARY NOTATION

17. COSATI CODES		
FIELD	GROUP	SUB-GROUP

18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number): Information Management System; Installation Restoration Program; Environmental Sampling Data; Hazardous Waste; Data Base; Data Loading

19. ABSTRACT (Continue on reverse if necessary and identify by block number)

IRPIMS is a computerized data base maintained by the Air Force Occupational and Environmental Health Laboratory (AFOEHL) to store and analyze information relevant to the Air Force Installation Restoration Program (IRP). AFOEHL contractors are required to submit project data in electronic format compatible with IRPIMS. The purpose of this document is to assist those organizations in generating submissions in that data format. Additional information about IRPIMS is available from AFOEHL upon request.

20. DISTRIBUTION/AVAILABILITY OF ABSTRACT	21. ABSTRACT SECURITY CLASSIFICATION
☒ UNCLASSIFIED/UNLIMITED ☐ SAME AS RPT ☐ DTIC USERS	Unclassified

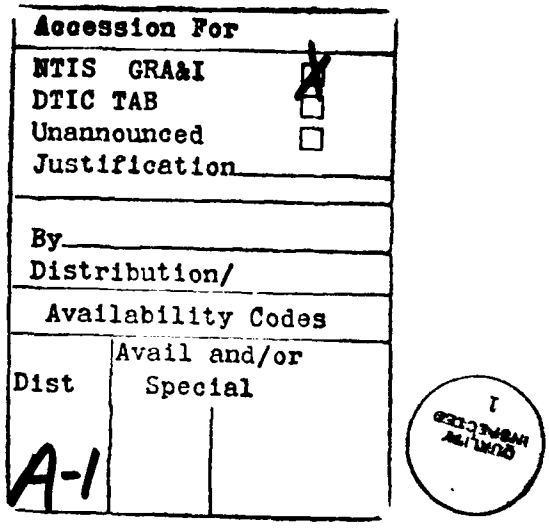
22a. NAME OF RESPONSIBLE INDIVIDUAL	22b. TELEPHONE (Include Area Code)	22c. OFFICE SYMBOL
Philip Hunter, GS-13	(512) 536-9001	AFOEHL/EQR

DD Form 1473, JUN 86 — Previous editions are obsolete. — SECURITY CLASSIFICATION OF THIS PAGE

ACKNOWLEDGEMENTS

The authors would like to thank the following individuals for their efforts in contributing to the completion of the report:

Ms Robin Tutschke
Ms Teresa Carmona
Ms Beth Rancher
MITRE Corp., in particular
Mr Sam Hopper
Mr Jim Burnetti
Dr George Bizzigotti



PREFACE

VERSION 2.1 of the IRPIMS Data Loading Handbook differs from the previous Version (2.0) due to the following significant changes and/or additions:

1) File BCHCON requires that the Data Loading Handbook version be entered.

2) File BCHLDI requires that "ELEV" be entered as the ground elevation for monitoring wells rather than the measuring point elevation.

3) All well construction measurements entered into file (BCHWCI) should be made relative to the ground surface rather than the measuring point. All water level and sounding measurements however, shall continue to be made from the measuring point.

4) The Lot Control Number (LOTCTLNUM) field has been increased to four characters in File BCHSAMP. A special convention for numbering lot control numbers has been established and is described on page 4. Its use is mandatory.

5) The effective use of the Lot Control Number in the BCHSAMP table requires that the sample type code (SACODE) now also be included in the BCHSAMP table. The effects of this change are discussed in Section 2.3.

6) The Sample Type Code (SACODE) in File BCHRES should be entered into columns 40-42.

7) The ASTM Soil Classification Code (ASTMCODE) field has been added to the table BCHLTD.

8) The files pertaining to Surface Geophysical Survey Data (BCHSSD), Groundwater Pump Test Data (BCHPTD), and Groundwater Slug Test Data (BCHSTD) are no longer required.

9) A REMARKS Field has been added to the Groundwater Level Data File (BCHGWD).

10) The field spacing (start-end columns) in the Analytical Results File (BCHRES) has been changed so that there is one space between each column. This change affects the following fields: SACODE, LABDL, LABDLPRC, PQLEVEL, PQLEVELPRC, AND EXPECTED.

11) The BASIS field has been moved from BCHRES to BCHTEST. The subsequent field spacing changed as well.

12) SITEID field spacing (start-end positions) have been changed from a two (2) number field to a three (3) alphanumeric field in BCHLDI and BCHSSI files. The subsequent field spacing has changed as well.

Other changes in this version have been made to clarify the content and presentation of information required.

TABLE OF CONTENTS

SECTION 1

SUBMITTING DATA TO IRPIMS

IRPIMS is a computerized data base maintained by the Air Force Occupational and Environmental Health Laboratory (AFOEHL) to store and analyze information relevant to the Air Force Installation Restoration Program (IRP). AFOEHL contractors are required to submit project data in electronic format compatible with IRPIMS. The purpose of this document is to assist those organizations in generating submissions in that data format.

Data are submitted to IRPIMS through 10 ASCII files listed in Table 1. Section 1 describes the general requirements for electronic data submission. Section 2 provides some specific requirements and suggestions about how data generated during IRP projects should be loaded into electronic files in the correct IRPIMS format. Section 3 provides an explanation of the content and function of each table as well as the format specification. Valid Value Lists (VVL) are provided in Appendix A; data fields that require entries from one of the valid value lists are noted in the format specifications.

Contractors are required to adhere to these format specifications and valid values in the preparation of their electronic data submission. Any questions or problems related to data entry or file creation, including additions to the valid value lists, should be addressed to AFOEHL. Contractors should submit batch files to AFOEHL on 5 1/4" floppy disks (360K or 1.2M capacity) or 3 1/2" disks (720K or 1.44M) in the MS-DOS format.

The electronic data submission should be consistent with, and inclusive of, all project activities required by the Statement of Work. Projects will not always require the creation of all IRPIMS data loading files. For example, if the only activity in a project involved soil samples, the creation of the files BCHWCI, BCHGWD, and BCHCALC would not be necessary. However, BCHCON and BCHSSI files are required for all data submissions. All data provided on a disk should apply only to the contract and delivery order specified in the BCHCON file. The BCHCON file must be included on each disk of IRPIMS data submitted to AFOEHL.

Each file submitted as part of the IRPIMS data loading effort should be named according to the file ID for the data being submitted. These file IDs are listed in the first column of Table 1 and at the top of every data loading file structure in Section 3 of this handbook. The volume of data submitted in a given file may be greater than the capacity of a single disk. In this case, the data from this file can be split into smaller individual files which will fit onto the disks. These disks must be numbered externally, and the file name must be the same on each disk on which it resides. As noted above, the BCHCON file must be on each of these disks.

Additional information about IRPIMS is available from AFOEHL upon request.

Table 1
IRPIMS Data Loading Files

File ID	Content
BCHCON	Contract Information
BCHLDI	Location Definition Information
BCHSSI	Site Status Information
BCHLTD	Lithologic Description and Classification of Borehole Cuttings and Cores
BCHWCI	Groundwater Well Completion Information
BCHGWD	Groundwater Level Data
BCHSAMP	Environmental Sampling Information
BCHTEST	Sample Preparation Information
BCHRES	Analytical Results
BCHCALC	Calculated Hydrologic Parameters

SECTION 2

LOADING IRP DATA IN THE IRPIMS FORMAT

This section provides some specific requirements and suggestions about loading data generated during IRP projects into electronic files in the correct IRPIMS format. In particular, this section describes the relationships among the various files. These relationships are expressed through the use of key fields, which appear in multiple files. Key fields relate data in one file to data in other files. Although all data entered into IRPIMS should conform to the field definitions provided in Section 3, submitters should pay special attention to insuring the integrity and uniqueness of the key fields. The relationships between locations, samples, tests, and results discussed below illustrate the importance of key fields. In addition, this section describes the numbering of field and laboratory control lots, the entry of gas chromatographic (GC) results when confirmation columns are used, and the entry of quality control results.

2.1 DEFINING LOCATIONS

Location may be the single most important type of data in IRPIMS, because nearly all the technical data is of little value if it is not tied to a specific point in the environment. AFOEHL thus places a premium on precise definition of locations. For each sample obtained or measurement made at a new location, a new definition record must be added to IRPIMS for that location. The contractor enters general information about the location into BCHLDI: the survey coordinates, the elevation, general description, IRP site, AF installation, by whom, when, and how the location was established. The location is also given a name, the Location Cross Reference (LOCXREF). LOCXREF serves to tie the technical data in the other IRPIMS tables to a geographical point (e.g., a monitoring well). For example, the analytical results in BCHRES are all tied to a particular LOCXREF. Using that LOCXREF, BCHLDI provides the elevation and survey coordinates for the location; with that information and the sample depth information, the point where the sample was obtained is known precisely.

Given the importance of LOCXREF, it is critical that each LOCXREF be unique. When a new location is established, the contractor must be sure that the LOCXREF has not been used to describe some other location on the installation. When an existing location is sampled, the contractor must be sure that the LOCXREF is the same as that used previously, otherwise the current sample will not be connected to the previous location already defined in IRPIMS. In either case, it is important for the contractor to consult the AFOEHL Consultant (previously referred to as the Technical Program Manager or TPM) to ensure that LOCXREFs are properly assigned.

2.2 SAMPLES, TESTS, AND RESULTS

A given IRP location may be sampled on more than one occasion. Each sample may be subjected to several analytical tests. Each analysis may provide concentrations of many analytes. For many reasons, IRPIMS files are set up to parallel these levels; IRPIMS stores information on locations, samples, tests, and results separately. Common fields connect analytical results to a particular test, tests to a particular sample, and samples to a particular location so that IRPIMS can produce a complete record of where, when and how a result came about.

In order to completely understand the relationships, take a hypothetical example. At Smith AFB, samples were obtained from a monitoring well, MW-06, on 7 April 1986 and 12 July 1987. Each of those samples was tested for purgeable aromatics, petroleum hydrocarbons, and lead. The resulting data would be entered into IRPIMS files as shown in Table 2. One record in the BCHLDI file describes location MW-06. Two records in the BCHSAMP file describe the two samples. Nine records describe the procedures in the BCHTEST file: three tests on each of the two samples, plus one record for a lab replicate and two records for reporting a GC confirmation. Finally, 33 records in the BCHRES file describe the analytical results.

2.3 NUMBERING LOTS

Control of precision, accuracy, and sample contamination is key to evaluating the reliability of chemical analyses. In order that IRPIMS can relate quality control data to data from environmental samples, samples are identified by field lot control numbers and tests by laboratory lot control numbers. These lot control numbers designate a group of samples which share the same quality control data.

AFOEHL has established a convention for numbering field lots using four characters. The first three characters of this lot control number identify the samples that share an ambient conditions blank (first character), an equipment blank (second character), and a trip blank (third character). When identifying a particular blank in the field lot control number, use the digits 1-9 in the appropriate lot control number position for that kind of blank. A 0 placed in the field lot control number position indicates that this particular kind of blank was not collected for this sample. The fourth character is used to identify the cooler in which the samples were packed for shipment. The specific intent of this fourth character is to identify the fractions of a sample that are susceptible to cross contamination in the cooler. It is not meant to be a directive on how to pack coolers in the field.

These field control lot numbers should be entered in LOTCTLNUM in the table BCHSAMP. The LOTCTLNUM will be used with the LOGDATE of a sample to properly group these environmental samples with the field quality control samples. The use of the LOGDATE in this grouping process simplifies the creation of field lot control numbers because for each day of sampling, the numbering process will be started again.

Table 2
Records Created to Enter Data From a Sample Project

Record in BCHLDI:

AFIID	SI	LOCXREF	LTC	LTP	NCOORD	ECOORD	ELEV	ESC	DRL	EXC	CMC	ESTDATE	DEPTH	BHD	LOCDESC
SMITH	02	MW-06	WL	I	263186.32	95224.10	278.57	COE	USAC		HS	01-APR-86	45.25	6.00	MONITORING WELL LOCATED 50 FT EAST-NORTHEAST OF THE INTERSECTION OF TAXIWAY F AND THE MAIN RUNWAY

Records in BCHSAMP:

AFIID	LOCXREF	LOGDATE	TIME	LOT CTL NUM	LOGC	SBD	SED	SM	MX	SA
SMITH	MW-06	07-APR-86	1045	111A	USCE	0.00	0.00	B	WG	N
SMITH	MW-06	12-JUL-87	1500	121A	USAF	0.00	0.00	B	WG	N
SMITH	FIELDQC	12-JUL-87	1500	001A		0.00	0.00	B	WQ	TBI

Records in BCHTEST:

AFIID	LOCXREF	LOGDATE	MX	ANM	LAB	LABSAMPID	SA	EXM	SBD	SED	EXTDATE	TIME	PV	ANADATE	TIME	LABLOTCTL	UNITMEAS
SMITH	MW-06	07-APR-86	WG	SW8020	ACE	0486-341	N	SW5030	0.00	0.00	11-APR-86	1100	1C	11-APR-86	1115	0486-20	UG/L
SMITH	MW-06	07-APR-86	WG	SW8020	ACE	0486-341	N	SW5030	0.00	0.00	11-APR-86	1325	2C	11-APR-86	1340	0486-22	UG/L
SMITH	MW-06	07-APR-86	WG	SW8020	ACE	0486-341	N	SW5030	0.00	0.00	11-APR-86		PR	11-APR-86			UG/L
SMITH	MW-06	07-APR-86	WG	E418.1	ACE	0486-341	N	METHOD	0.00	0.00			PR	12-APR-86	1500	0486-25	MG/L
SMITH	MW-06	07-APR-86	WG	SW7421	ACE	0486-341	N	SW3005	0.00	0.00	10-APR-86	1400	PR	13-APR-86	1135	0486-29	MG/L
SMITH	MW-06	12-JUL-87	WG	SW8020	ACE	0787-597	N	SW5030	0.00	0.00	14-JUL-87	1405	PR	14-JUL-87	1420	0786-53	UG/L
SMITH	MW-06	12-JUL-87	WG	E418.1	ACE	0787-597	N	METHOD	0.00	0.00			PR	15-JUL-87	1050	0786-54	MG/L
SMITH	MW-06	12-JUL-87	WG	SW7421	ACE	0787-597	N	SW3005	0.00	0.00	14-JUL-87	0830	PR	15-JUL-87	1445	0786-56	MG/L
SMITH	MW-06	12-JUL-87	WG	SW7421	ACE	0787-597	LRI	SW3005	0.00	0.00	14-JUL-87	0830	PR	15-JUL-87	1510	0786-56	MG/L
SMITH	FIELDQC	12-APR-87	WQ	SW8020	ACE	0707-598	TBI	SW5030	0.00	0.00	14-JUL-87	0830	PR	14-JUL-87	1500	0706-53	UG/L

Records in BCHRES:

AFIID	LOCXREF	LOGDATE	MX	ANM	B	SA	EXM	SBD	SED	PV	PARLABEL	PQ	PARVAL	PVP	PARUN	PUP	LABDL	LDP	PQLEVEL	PQP	EXPECTED
SMITH	MW-06	07-APR-86	WG	SW8020		N	SW5030	0.00	0.00	1C	BZ	ND	0.0	1			0.2				
SMITH	MW-06	07-APR-86	WG	SW8020		N	SW5030	0.00	0.00	1C	CLBZ	ND	0.0	1			0.2				
SMITH	MW-06	07-APR-86	WG	SW8020		N	SW5030	0.00	0.00	1C	DCBZ12	ND	0.0	1			0.4				

Note: Field names (column headings) should not be included in the IRPIMS data files. They are included here for illustrative purposes only.

Table 2 (Continued)
Records Created to Enter Data From a Sample Project

AFIID	LOCXREF	LOGDATE	MX	ANM	B	SA	EXM	SBD	SED	PV	PARLABEL	PQ	PARVAL	PVP	PARUN	PUP	LABDL	LDP	PQLEVEL	PQP	EXPECTED
SMITH	MW-06	07-APR-86	WG	SW8020		N	SW5030	0.00	0.00	IC	DCBZ13	ND	0.0	1			0.4				
SMITH	MW-06	07-APR-86	WG	SW8020		N	SW5030	0.00	0.00	IC	DCBZ14	ND	0.0	1			0.3				
SMITH	MW-06	07-APR-86	WG	SW8020		N	SW5030	0.00	0.00	IC	BR4FBZ	=	21.0	1			0.2				20.0
SMITH	MW-06	07-APR-86	WG	SW8020		N	SW5030	0.00	0.00	IC	BZME	=	15.0	1			0.2				
SMITH	MW-06	07-APR-86	WG	SW8020		N	SW5030	0.00	0.00	IC	XYLENES	ND	0.0	1			0.2				
SMITH	MW-06	07-APR-86	WG	SW8020		N	SW5030	0.00	0.00	2C	BZ	ND	0.0	1			0.2				
SMITH	MW-06	07-APR-86	WG	SW8020		N	SW5030	0.00	0.00	2C	CLBZ	ND	0.0	1			0.2				
SMITH	MW-06	07-APR-86	WG	SW8020		N	SW5030	0.00	0.00	2C	DCBZ12	ND	0.0	1			0.4				
SMITH	MW-06	07-APR-86	WG	SW8020		N	SW5030	0.00	0.00	2C	DCBZ13	ND	0.0	1			0.4				
SMITH	MW-06	07-APR-86	WG	SW8020		N	SW5030	0.00	0.00	2C	DCBZ14	ND	0.0	1			0.3				
SMITH	MW-06	07-APR-86	WG	SW8020		N	SW5030	0.00	0.00	2C	BR4FBZ	=	18.0	1			0.2				20.0
SMITH	MW-06	07-APR-86	WG	SW8020		N	SW5030	0.00	0.00	2C	BZME	=	10.0	1			0.2				
SMITH	MW-06	07-APR-86	WG	SW8020		N	SW5030	0.00	0.00	2C	XYLENES	ND	0.0	1			0.2				
SMITH	MW-06	07-APR-86	WG	SW8020		N	SW5030	0.00	0.00	PR	BZ	ND	0.0	1			0.2				
SMITH	MW-06	07-APR-86	WG	SW8020		N	SW5030	0.00	0.00	PR	CLBZ	ND	0.0	1			0.2				
SMITH	MW-06	07-APR-86	WG	SW8020		N	SW5030	0.00	0.00	PR	DCBZ12	ND	0.0	1			0.4				
SMITH	MW-06	07-APR-86	WG	SW8020		N	SW5030	0.00	0.00	PR	DCBZ13	ND	0.0	1			0.4				
SMITH	MW-06	07-APR-86	WG	SW8020		N	SW5030	0.00	0.00	PR	DCBZ14	ND	0.0	1			0.3				
SMITH	MW-06	07-APR-86	WG	SW8020		N	SW5030	0.00	0.00	PR	BR4FBZ	=	20.0	1			0.2				20.0
SMITH	MW-06	07-APR-86	WG	SW8020		N	SW5030	0.00	0.00	PR	BZME	=	15.0	1			0.2				
SMITH	MW-06	07-APR-86	WG	SW8020		N	SW5030	0.00	0.00	PR	XYLENES	ND	0.0	1			0.2				
SMITH	MW-06	07-APR-86	WG	E418.1		N	METHOD	0.00	0.00	PR	PHC	=	10.5	1			0.5				
SMITH	MW-06	07-APR-86	WG	SW7421		N	SW3005	0.00	0.00	PR	PB	ND	0.000	3			0.005				
SMITH	MW-06	12-JUL-87	WG	SW8020		N	SW5030	0.00	0.00	PR	BZ	ND	0.0	1			0.2				
SMITH	MW-06	12-JUL-87	WG	SW8020		N	SW5030	0.00	0.00	PR	CLBZ	ND	0.0	1			0.2				
SMITH	MW-06	12-JUL-87	WG	SW8020		N	SW5030	0.00	0.00	PR	DCBZ12	ND	0.0	1			0.4				
SMITH	MW-06	12-JUL-87	WG	SW8020		N	SW5030	0.00	0.00	PR	DCBZ13	ND	0.0	1			0.4				
SMITH	MW-06	12-JUL-87	WG	SW8020		N	SW5030	0.00	0.00	PR	DCBZ14	ND	0.0	1			0.3				
SMITH	MW-06	12-JUL-87	WG	SW8020		N	SW5030	0.00	0.00	PR	BR4FBZ	=	25.0	1			0.2				20.0
SMITH	MW-06	12-JUL-87	WG	SW8020		N	SW5030	0.00	0.00	PR	BZME	=	20.0	1			0.2				
SMITH	MW-06	12-JUL-87	WG	SW8020		N	SW5030	0.00	0.00	PR	XYLENES	ND	0.0	1			0.2				
SMITH	MW-06	12-JUL-87	WG	E418.1		N	METHOD	0.00	0.00	PR	PHC	=	22.3	1			0.5				
SMITH	MW-06	12-JUL-87	WG	SW7421		N	SW3005	0.00	0.00	PR	PB	ND	0.000	3			0.005				
SMITH	MW-06	12-JUL-87	WG	SW7421		LR1	SW3005	0.00	0.00	PR	PB	=	0.006	3			0.005				0.000
SMITH	FIELDQC	12-APR-86	WQ	SW8020		TB1	SW5030	0.00	0.00	PR	BZ	ND	0.0	1			0.2				0.0
SMITH	FIELDQC	12-APR-87	WQ	SW8020		TB1	SW5030	0.00	0.00	PR	CLBZ	ND	0.0	1			0.2				0.0
SMITH	FIELDQC	12-APR-87	WQ	SW8020		TB1	SW5030	0.00	0.00	PR	DCBZ12	ND	0.0	1			0.4				0.0
SMITH	FIELDQC	12-APR-87	WQ	SW8020		TB1	SW5030	0.00	0.00	PR	DCBZ13	ND	0.0	1			0.4				0.0
SMITH	FIELDQC	12-APR-87	WQ	SW8020		TB1	SW5030	0.00	0.00	PR	DCBZ14	ND	0.0	1			0.3				0.0
SMITH	FIELDQC	12-APR-87	WQ	SW8020		TB1	SW5030	0.00	0.00	PR	BR4FBZ	ND	20.5	1			0.2				20.0
SMITH	FIELDQC	12-APR-87	WQ	SW8020		TB1	SW5030	0.00	0.00	PR	BZME	ND	0.0	1			0.2				0.0
SMITH	FIELDQC	12-APR-87	WQ	SW8020		TB1	SW5030	0.00	0.00	PR	XYLENES	ND	0.0	1			0.2				0.0

Note: Field names (column headings) should not be included in the IRPIMS data files. They are included here for illustrative purposes only.

Table 3
Field Lot Control Number And Corresponding SACODE Assignment

LOCATIONS	LOGDATE	LOTCTLNUM	SACODE
MW-01	07-APR-86	111A	N
MW-02	07-APR-86	111A	N
MW-03	07-APR-86	111A	N
MW-03	07-APR-86	111A	FR1
MW-06	07-APR-86	111A	N
MW-07	07-APR-86	111A	N
MW-04	07-APR-86	221A	N
MW-05	07-APR-86	221A	N
MW-08	07-APR-86	221A	N
MW-09	07-APR-86	221A	N
FIELDQC	07-APR-86	100A	AB1
FIELDQC	07-APR-86	200A	AB2
FIELDQC	07-APR-86	010A	EB1
FIELDQC	07-APR-86	020A	EB2
FIELDQC	07-APR-86	001A	TB1

The effective implementation of this field lot number convention requires that all samples that are generated in the field have a record in the BCHSAMP table. This means that all field blanks (ambient, equipment, and trip) and all field replicates and spikes will need a separate entry in this BCHSAMP table. In order for this to be possible and still maintain a unique key for the BCHSAMP table, the sample type code (SACODE) must be included in the BCHSAMP table. This key field (SACODE) is then carried through the BCHTEST and BCHRES tables to uniquely identify the field samples.

The sample type code (SACODE) for field blanks will be of the following generic form:

Ambient Conditions Blanks:	ABx
Equipment Blanks:	EBx
Trip Blanks:	TBx

The first two characters identify the type of blank while the third 'x' character assumes the value of the blank (1-9) that is used to reference that blank in the field lot control number. For example, the ambient conditions blank that is being designated as 1 in the field control numbers for a given day and packed in cooler "A" would have an SACODE of "AB1" and a field lot control number of 100A.

In order to better explain the idea of sample and test lots, the following hypothetical examples are provided.

Two field sampling crews at Smith AFB were sampling monitoring wells on 7 April 1986. The first field crew obtained an ambient conditions blank (designated AB1), sampled wells MW-01 through MW-03, obtained an equipment blank (designated EB1), sampled wells MW-06 and MW-07, and obtained a field duplicate from well MW-03. The second crew, working at a different site, obtained an ambient conditions blank (designated AB2), sampled wells MW-04, MW-05, MW-08, and MW-09, and obtained another equipment blank (designated EB2). These samples, together with the first crew's samples, were packed with a trip blank (designated TB1) and given to a courier to take to the laboratory. The normal environmental samples obtained by the first crew share the quality control provided by the ambient conditions blank and the equipment blank that they collected. The normal environmental samples obtained by the second crew share the ambient conditions blank and the equipment blank that they collected. All the samples were shipped in the same cooler (designated as cooler A) and they share the same trip blank. The field lot control numbers for these samples are illustrated in Table 3.

All the samples from Smith AFB were shipped to Ace Analytical Laboratories. On 11 April 1986, analysts prepared to run GC tests for purgeable aromatics (SW8020) on 14 samples from Smith AFB which the lab had numbered as samples 0486-327 through 0486-340. They began by running the test on a laboratory blank, followed by samples 0486-327 through 0486-331, a replicate of 0486-331, samples 0486-332 through 0486-336, a matrix spike and spike duplicate of 0486-336 and a blank spike. All the samples in this group share the quality control provided by the 0486-331 replicates, the

lab blank sample, and the three spikes included in this group. This group is therefore designated a complete laboratory lot, and was numbered by the contractor as lab control lot SW8020-1.

The next day, the lab ran the remaining samples 0486-336 through 0486-340. Included among that group were a blank, a replicate, and a spike. These samples made up lab control lot SW8020-2. These laboratory control lot numbers should be entered in LABLOTCTL in the table BCHTEST so that IRPIMS may properly group these samples. Note that AFOEHL has not established any convention for numbering laboratory control lots; any scheme that properly groups analytical tests is acceptable.

2.4 CONFIRMATION OF GAS CHROMATOGRAPHIC RESULTS

AFOEHL requires laboratories to confirm positive gas chromatographic results by testing the same sample on a different GC column. For each analyte that is subject to confirmation, IRPIMS stores three sets of information: the first column result, the second column result, and the primary result. The primary result for a given analyte is the laboratory's considered opinion of the "true" analyte concentration. For example, if peaks overlap (coelute) on one column, the laboratory would report the concentration from the other column as the primary result. IRPIMS uses the parameter value classification code (PVCCODE) to distinguish the records arising from first and second column and primary results.

When a second column confirmation is run, three records must be entered into the BCHTEST file using PVCCODEs 1C (1st column), 2C (2nd column), and PR (primary). Three records should also be entered for each analyte into the BCHRES file, again using PVCCODEs 1C, 2C, and PR. If a third column is required to positively confirm a result, use PVCCODE 3C. If GC/MS is used for confirmation, use the PVCCODE MS. Through these codes, IRPIMS can distinguish which analytical result came from the first column test, which came from the confirming test(s), and which result the laboratory believes is more correct.

2.5 QUALITY CONTROL OF ANALYTICAL RESULTS

In order that AFOEHL might evaluate the reliability of analytical results, results from various quality control samples must be submitted. The main types of quality control samples, along with the appropriate entries for fields LOCXREF, SBD, SED, MATRIX, SACODE, and EXPECTED are given in table 4. Note that for purposes of IRPIMS submissions, replicates and duplicates refer to the second and subsequent set of tests performed on and results obtained from an environmental sample. For example, if two samples were collected independently at a location during a single sampling event, one set of IRPIMS entries would have SACODE N and one set would have SACODE FR1. If a sample was split in the laboratory and three tests run, three sets of IRPIMS entries with SACODEs N, LR1, and LR2 would be submitted. The choice of which set of test and results entries is labeled normal and which entries are labeled as duplicates or replicates is arbitrary.

Surrogate spike results should be included in the BCHRES data loading file as part of the regular list of analytes for a test (see table 2). The surrogate spike results are quality control results, but they will use the SACODE of the sample to which they were added (e.g. surrogate spike analytes in environmental samples, SACODE='N'; surrogate spikes in Laboratory blanks, SACODE ='LB1'). All surrogate spike BCHRES Rows must have the amount of the surrogate added to the environmental or QC sample in the EXPECTED field.

The valid values for sample type codes are not intended to be overly rigid. Many labs and contractors may use slightly different terminology for referring to quality control samples. In selecting the proper sample type code, the contractor should be guided more by the purpose of that sample than by their own terminology. IRPIMS uses quality control sample types for the purposes listed in table 5. See the AFOEHL Handbook or the Third Edition of SW-846 "Test Methods for Evaluating Solid Waste", for exact definitions of quality control sample types and guidance on how to prepare quality control samples.

Table 4
Values Used for Entry of Quality Control Samples

QC SAMPLE TYPE	LOCXREF	SBD & SED	MATRIX	SACODE	EXPECTED
Trip blanks	FIELDQC	0, 0	xQ*	TB1**	0.0000
Ambient conditions blanks	FIELDQC	0, 0	xQ*	AB1**	0.0000
Equipment blanks	FIELDQC	0, 0	xQ*	EB1**	0.0000
Lab blanks	LABQC	0, 0	xQ*	LB1**	0.0000
Field duplicates	[Actual]	[Actual]	[Actual]	FR1**	[Amount in original sample]
Field replicates	[Actual]	[Actual]	[Actual]	FR1**	[Amount in original sample]
Lab replicates	[Actual]	[Actual]	[Actual]	LR1**	[Amount in original sample]
Known (external reference material)	LABQC	0, 0	xQ*	RM	[Amount present in known]
Blank spikes	LABQC	0, 0	xQ*	BS1**	[Amount added]
Blank spike duplicate	LABQC	0, 0	xQ*	BD1**	[Amount added]
Field spikes	[Actual]	[Actual]	[Actual]	FS	[Amount added + amount in original sample]
Matrix spikes	[Actual]	[Actual]	[Actual]	MS	[Amount added + amount in original sample]
Matrix spike duplicates	[Actual]	[Actual]	[Actual]	SD	[Amount added + amount in original sample]
Surrogate spikes	[Actual]	[Actual]	[Actual]	***	[Amount added]

*Use WQ, SQ, AQ, or TQ for aqueous, solid, gaseous, and tissue quality control samples. Identify the actual matrix of the quality control sample, not the matrix of the associated environmental samples.

**Numeric suffixes currently ranging from 1 to 4 (e.g., TB1, TB2, TB3, or TB4) accommodate multiple blanks in a single day, multiple replicates, etc. Note that an environmental sample uses SACODE = N, the first replicate (second test) uses, e.g., LR1, the second replicate (third test) uses, e.g. LR2, etc.

***The SACODE for surrogate spike results will be the same as the SACODE of the sample that contained the surrogate.

Table 5
Purpose of Quality Control Sample Types

Sample Type	Purpose
Trip blanks	Blank samples designed to detect contamination of the environmental samples during shipping between the field and the lab. A trip blank is a VOC sample bottle filled in the laboratory with Type II Reagent Grade Water, transported to the site, handled like a sample, and returned to the laboratory for analysis. Trip blanks are not opened in the field.
Ambient conditions blanks	Blank samples designed to detect contamination of the environmental samples introduced during field activities. An ambient conditions blank is Type II Reagent Grade Water poured into a sample container at a sampling site, handled like a sample, and transported to the laboratory for analysis.
Equipment blanks	Blank samples designed to detect contamination of the environmental samples caused by inadequate decontamination of the sampling equipment. An equipment blank is Type II Reagent Grade Water poured into or pumped through a decontaminated sampling device, transferred to a sample container, and transported to the laboratory for analysis.
Lab blanks	Blank samples designed to detect contamination of the environmental samples in the laboratory. See the Third Edition of SW-846 for laboratory quality control requirements.
Field duplicates	Samples collected independently at a sampling location during a single sampling event and designed to check variability arising from sampling activities and sample inhomogeneities.
Field replicates	A single sample divided into equal parts in the field and designed to check variability arising from sampling activities and sample inhomogeneities (also known as field splits).

Table 5
Purpose of Quality Control Sample Types (Concluded)

Sample Type	Purpose
Lab replicates	Samples replicated in the laboratory and designed to check the precision of analytical results (also known as lab duplicates or lab splits). See the Third Edition of SW-846 for laboratory quality control requirements.
Known	An external reference material, or primary standard traceable to NIST. See the Third Edition of SW-846 for laboratory quality control requirements.
Blank spikes	Samples designed to check the effect of extraction and analytical procedures on the accuracy of results by measuring a known concentration of an analyte of interest. See the Third Edition of SW-846 for laboratory quality control requirements.
Field spikes	Samples designed to check the effect of sampling, extraction, and analytical procedures on the accuracy of results by analyzing a normal sample with a known amount of analyte added in the field.
Matrix spikes	Samples designed to check the effect of extraction and analytical procedures on the accuracy of results by analyzing a normal sample with a known amount of analyte added in the lab. See the Third Edition of SW-846 for laboratory quality control requirements.
Surrogate spikes	Compounds designed to check the effect of extraction and analytical procedures on the accuracy of results by analyzing a normal sample with a known amount of a surrogate compound (an analyte not normally present in the sample) added. See the Third Edition of SW-846 for laboratory quality control requirements.

SECTION 3

DATA LOADING FILE STRUCTURES

Each of the following subsections addresses one of the data loading files. The function of each file is described in an introductory heading; this introduction will aid the determination of whether the creation of the file is necessary. The introduction is followed by the tabular batch file format specifications. The function of each portion of the format specification is described below.

Heading	Function
Column Name	Indicates the abbreviated file field names that are resident in IRPIMS. These names describe the columns in the ASCII flat files; however, **DO NOT** include these names in the file.
Start-End Positions	Indicates the width of the field entries that can be accepted by IRPIMS. Data entry for date, character, and alphanumeric fields must start in the designated start position of each field; it should not be centered or right-justified. If the data entry is shorter than the field width, the entry should be padded to the right with blanks (i.e. space characters) so that it finishes in the designated end position. If the data entry is *longer* than the field width, it must be truncated to a unique identifier or significant value. Data entry for numeric values may start at any position, but must stay between the designated start and end positions. IMPORTANT: **Be sure not to use tabs.** Even though the printed file and the screen display may look correct, IRPIMS will not accept files containing tab characters.
Valid Values	The notation "See VV list" indicates that codes are used to represent entities in an abbreviated form in the data base. This notation also indicates that a list of the valid values exists in Appendix A of this handbook. The contractor must either choose one of the values

in the appropriate list, or contact AFOEHL to initiate any required additions to the valid values.

Definition

Spells out the title of the data field, indicates the format of the field in brackets, and provides an explanation of the information to be loaded in that field. The following conventions are used to define format:

* [An] defines an alphanumeric field n characters long, e.g. [A5] indicates a 5-character alphanumeric field.

* [XX.XX] defines a numeric field, shows the length of the field, and gives the number of decimal places that will be accepted. Values extending beyond the number of decimal places will be rounded appropriately. Data entry for numeric values may start at any position, but must stay between the designated start and end positions. For example, a field defined as [XX.XX] will accept a maximum value of 99.99, and would accept entries of 67.49, 2.1, and 0.38. An entry of 6.638 in that field will be accepted, but will be stored as 6.64.

* [DD-MMM-YY] defines the date format, e.g., 23-NOV-87. Be sure to use capital letters for the month.

* [OPTIONAL] indicates that IRPIMS does not require data to be entered in a field, but if the information is available, it should be entered. If the information is not entered, the field must be filled with blanks.

TABLE 6

Contract Information File (BCHCON)

This file contains a single record, which identifies the Air Force Base/Installation for which data are being submitted, the contract and delivery order under which the analyses were performed, and the date of submission to AFOEHL.

A copy of this batch file must be included on every disk being submitted.

Column Name	Start - End Positions	Valid Values	Definition
AFIID	1-5	See VV list	Air Force Installation Identification. [A5] Unique code used to represent an Air Force installation, plant, or base.
CONTID	7-13		Contract Number. [A7] Contract number, consisting of a Fiscal year and and contract sequence number, e.g. if contract number is F33615-84-D-4402, then the number entered in this field should be 84-4402.
DONUM	15-16		Delivery Order Number. [XX] Sequential number assigned as orders are written against a contract.
SUBDATE	18-26		Submission Date. [DD-MMM-YY] Date this data was submitted to AFOEHL by the contractor.
HNDBKV	28-30		Data Loading Handbook Version.[x.x]. (e.g 2.1,See front cover of handbook for version number)

TABLE 7

Location Definition Information File (BCHLDI)

This file defines each **new** sampling location. Each record in the file establishes a specific sampling location. A record must be generated for all locations sampled, except those which have been sampled in prior IRP projects. If a location is not defined, either from previous submissions to IRPIMS or in this file, AFOEHL cannot accept any technical data from that location.

Column Name	Start - End Positions	Valid Values	Definition
AFIID	1-5	See VV list	Air Force Installation Identification. [A5] Unique code used to represent an Air Force installation, plant, or base.
SITEID	7-9		Site Identification. [A3] Unique identifier assigned by AFOEHL used to represent a site within an Air Force installation investigated under the IRP. The identification must be identical to those used in IRPIMS. Consult with AFOEHL for a list of site identifiers.
LOCXREF	11-20		Location Cross Reference. [A10] Unique identifier assigned to a location within an Air Force installation where measurements or samples are taken (typically synonymous with monitoring well ID, borehole ID, etc.; e.g. "MW-06"). Location cross references used in previous IRP investigations must be consistently and uniquely coded from one investigation to another. (e.g. "MW-06" in a Stage 1 investigation should be identified as "MW-06" in Stage 2 and subsequent investigations). Consult AFOEHL on the proper entries if there are any questions.
LTCCODE	22-23	See VV list	Location Classification Code. [A2] Coded value describing location where measurements or samples are taken.
LPRCODE	25-25	See VV list	Location Proximity Code. [A1] Coded value indicating whether sampling or measuring location is within or outside the Air Force installation boundaries.
NCOORD	27-37		North State Plane Coordinate. [XXXXXXXX.XX] The y-value (North-South) of the distance in feet of a sampling or measuring location from the reference location of known state plane coordinates.
ECOORD	39-49		East State Plane Coordinate. [XXXXXXXX.XX] The x-value (East-West) of the distance in feet of a sampling or measuring location from the reference location of known state plane coordinates.
ELEV	51-58		Surface Elevation. [XXXXX.XX] Elevation of ground surface (for groundwater, soil, or sediment sampling) or water surface (for surface water sampling) at a sampling or measuring location in feet above mean sea level. For groundwater sampling locations, use the elevation of the land surface at which the monitoring well is located.
ESCCODE	60-63	See VV list	Establishing Company Code. [A4] Coded value identifying the organization designating a sampling or measuring location, typically the prime contractor.
DRLCODE	65-68	See VV list	Drilling Company Code. [A4] Coded value identifying the organization that drilled a borehole at a sampling or measuring location. This organization is typically the drilling subcontractor. Leave blank for locations where no drilling took place, e.g., surface water sampling points.

TABLE 7

Location Definition Information File (BCHLDI) cont.

Column Name	Start - End Positions	Valid Values	Definition
EXCCODE	70-73	See VV list	Excavating Company Code. [A4] Coded value identifying the organization that excavated a test pit at a sampling or measuring location. Leave blank for all non-excavated locations.
CMCCODE	75-76	See VV list	Construction Method Code. [A2] Coded value identifying the method by which a borehole or test pit was constructed (Drilling/Excavation Method). Leave blank for locations where no construction occurs, e.g., surface water and some sediment sampling locations.
ESTDATE	78-86		Date Established. [DD-MMM-YY] The date that construction of a sampling or measuring location was completed.
DEPTH	88-94		Borehole Depth. [XXXX.XX] The total depth of a borehole (including boreholes drilled to install wells) measured in feet relative to ground surface; Value must be positive.
BHDIAM	96-100		Borehole Diameter. [XX.XX] The diameter of a borehole in inches. Leave blank for locations where no drilling took place, e.g., surface water sampling points.
LOCDESC	102-341		Location Description. [A240] Any additional information to describe a sampling or measuring location in text format, e.g. "Monitoring well located 10 feet Northeast of Bldg. 624 within spill area".

TABLE 8

Site Status Information File
(BCHSSI)

This file reports the status of each site at the time of the IRP activities reported in the associated data files. Each record in the file describes the status of one site. The site status should be indicated for all sites at which data were obtained. Please note that the definition and grouping of sites are performed internally by AFOEHL.

Column Name	Start - End Positions	Valid Values	Definition
AFIID	1-5	See VV list	Air Force Installation Identification. [A5] Unique code used to represent an Air Force installation, plant, or base.
SITEID	7-9		Site Identification. [A3] Unique identifier assigned by AFOEHL used to represent a site within an Air Force installation investigated under the IRP. The identification must be identical to those used in IRPIMS. Consult with AFOEHL for a list of site identifiers.
PHASE	11-15	See VV list	IRP Phase. [A5] Code indicating phase of IRP activity.
STAGE	17-17		IRP Stage. [X] Number indicating stage of IRP activity.
STATDATE	19-23		Status Date. [MMMYY] Completion date of IRP project.
STACODE	25-27	See VV list	Site Status Code. [A3] Coded value indicating status of IRP activities at a site.
REMARKS	29-268		Remarks. [A240] Any additional information in text format about IRP activities at a site.

TABLE 9

Lithologic Description of Boreholes File (BCHLTD)

This file reports the lithologic description and classification of cuttings and cores taken from boreholes or test pits (a test pit is considered as a special case of a shallow, wide borehole). Each record in the file provides information for one lithologic unit of a single borehole. This file should contain a continuous description of borehole lithology. A complete log for one borehole will therefore require many records in the file, one record for each unit encountered from the ground surface to the bottom of the borehole. The logs from many boreholes may be included in the same file since they will be distinguished by their LOCXREF.

The fields AFIID, LOCXREF, BEGDEPTH, ENDDEPTH, LITHCODE, and ASTMCODE must always be provided. The LITHCODE must be a valid code from the valid value list LITHCODE. Use the VISDESC (Visual Description) field to augment the information indicated by LITHCODE; describe any secondary characteristics or color, list the formation name, or provide other information as felt appropriate. The Stratigraphic Order (STRATORDER) is used to provide a way to correlate similar units between different locations. The site geologist should examine the stratigraphy of the entire site and assign numbers (sequentially increasing with depth) to each distinct strata on a site-wide basis. These numbers should then be reported in the logs of the individual boreholes. These numbers will be used for the construction of fence diagrams and similar analytical tools.

Column Name	Start - End Positions	Valid Values	Definition
AFIID	1-5	See VV list	Air Force Installation Identification. [A5] Unique code used to represent an Air Force installation, plant or base.
LOCXREF	7-16		Location Cross Reference. [A10] Unique identifier assigned to a location within an Air Force installation where measurements or samples are taken (typically synonymous with monitoring well ID, borehole ID, etc.; e.g. "MW-06"). Location cross references used in previous IRP investigations must be consistently and uniquely coded from one investigation to another. (e.g. "MW-06" in a Stage 1 investigation should be identified as "MW-06" in Stage 2 and subsequent investigations). Consult AFOEHL on the proper entries if there are any questions.
LOGCODE	18-21	See VV list	Logging Company Code. [A4] Coded value identifying the company logging the borehole or pit.
LOGDATE	23-31		Log Date. [DD-MMM-YY] Date that the logging is performed.
BEGDEPTH	33-39		Beginning Depth. [XXXX.XX] Upper depth of a lithologic stratum, measured below the ground surface in feet (reportec as a positive value).
ENDDEPTH	41-47		End Depth. [XXXX.XX] Lower depth of a lithologic stratum, measured below the ground surface in feet (reported as a positive value).
LITHCODE	49-52	See VV lists	Lithology Code. [A4] 4-Character code indicating lithologic description of layer.

TABLE 9

Lithologic Description of Boreholes File (BCHLTD) (cont.)

Column Name	Start - End Positions	Valid Values	Definition
ASTMCODE	54-57	See VV lists	ASTM Soil Classification Code.[A4]. A 2-4 character code used in ASTM classification of unconsolidated deposits. Deposits possessing characteristics of two groups are designated by combinations of group symbols (e.g. SPSM). The predominant group shall be entered as the second two-character code (e.g. SM is the predominant group if SPSM is entered in the field). Two character codes should be left justified within the field with blank character spaces filling columns 56 & 57.
STRATORDER	59-61		Stratigraphic Order. [XXX] Number assigned by site geologist to each distinct lithologic layer at a site.
VISDESC	63-302		Visual Description. [A240] Textual and mineralogical description of the material comprising the layer, to augment or qualify the lithologic codes. This field should include grain sizes, color, secondary characteristics, geologic formation name, etc.

TABLE 10

Groundwater Well Completion Information File (BCHWCI)

This file reports well completion information. Each record in the file provides information for one well. The fields AFIID, LOCXREF, MPELEV, TOTDEPTH, CASDIAM, SBDEPTH, and SCRLENGTH should always be provided.

Column Name	Start - End Positions	Valid Values	Definition
AFIID	1-5	See VV list	Air Force Installation Identification. [A5] Unique code used to represent an Air Force installation, plant or base.
LOCXREF	7-16		Location Cross Reference. [A10] Unique identifier assigned to a location within an Air Force installation where measurements or samples are taken (typically synonymous with monitoring well ID, borehole ID, etc.; e.g. "MW-06"). Location cross references used in previous IRP investigations must be consistently and uniquely coded from one investigation to another. (e.g. "MW-06" in a Stage 1 investigation should be identified as "MW-06" in Stage 2 and subsequent investigations). Consult AFOEHL on the proper entries if there are any questions.
INSDATE	18-26		Installation Date. [DD-MMM-YY] Date that a well casing is installed.
WELCODE	28-31	See VV list	Well Owner Code. [A4] Code value identifying the owner of a well that is monitored or tested.
WTCCODE	33-35	See VV list	Well Type Classification Code. [A3] Code value identifying the TYPE of well.
WCMCODE	37-38	See VV list	Well Completion Method Code. [A2] Code value identifying the method used to complete the well or the nature of the openings that allow water to enter the well.
GZCCODE	40-40	See VV list	Geologic Completion Zone. [A1] General hydrologic description of well completion zone.
SAQCODE	42-45	See VV list	Sole Source Aquifer Code. [A4] Code value identifying the sole source aquifer in which the well was completed. If not completed in a sole source aquifer, leave this field blank.
SEDEPTH	47-53		Seal End Depth. [XXXX.XX] Depth in feet (positive value) at which the bottom of the bentonite seal is positioned, relative to the ground surface (see ELEV in file BCHLDI).
FPL	55-60		Filter Pack Length. [XXX.XX] Length in feet from the bottom of the seal to the bottom of the borehole.
MPELEV	62-69		Measuring Point Elevation. [XXXXX.XX] Elevation of the measurement reference point used for groundwater depth level measurements, expressed in feet above Mean Sea Level; normally, the elevation where the top of casing is notched.
TOTDEPTH	71-77		Total Casing Depth. [XXXX.XX] Total depth in feet (positive value) below land surface of well casing including screen, blank casing, and well foot.
CASDIAM	79-84		Casing Inside Diameter. [XXX.XX] The inside diameter of the screened interval for monitoring wells; the diameter of the cased interval where the pump is positioned for production wells; the diameter of the casing for others.

TABLE 10

Groundwater Well Completion Information File (BCHWCI) (cont.)

Column Name	Start - End Positions	Valid Values	Definition
CMACODE	86-88	See VV list	Casing Material Code. [A3] Coded value identifying the material used as a well casing.
SBDEPTH	90-96		Screen Beginning Depth. [XXXX.XX] Depth in feet at which the top of the screen is placed, relative to the ground surface (i.e. positive value measured below land surface).
SCRLENGTH	98-103		Screen Length. [XXX.XX] The length in feet of the screened interval.
SOUA	105-110		Screen Slot Size. [XXX.XX] Vertical size of slot opening in inches.
SCRDIAM	112-117		Screen Diameter. [XXX.XX] Inside diameter of the screened interval in inches.
PCTOPEN	119-122		Screen Percent Open Area. [XX.X] Percent of screened interval that is open for water flow.
REMARKS	124-363		Remarks. [A240] Comments or remarks on the purpose or construction of the well, or identifying the geologic formation of completion.

TABLE 11

Groundwater Level Data File (BCHGWD)

This file reports groundwater level data. Each record in the file provides one set of groundwater level measurements for one well on a given day. This file can be used to report static levels or to report the groundwater levels and pumping data when the well is purged, pumped, or evacuated and allowed to recover before measuring the resulting water depth. Dry wells should be reported with blank spaces in all depth fields and a notation that the well is dry in REMARKS.

If static measurements are reported, the water level would be entered as the Static Water Depth (STATDEP); the fields PRODRATE, PUMPDEP, DEPWAT, and RECTIME are left blank. If dynamic measurements are reported, the dynamic depth (Recovery Level) would be recorded as DEPWAT. Additionally, data should be provided for the Production Discharge Rate, Pump Depth, and Recovery time. The initial depth could be recorded in the STATDEP field, otherwise that field is left blank. In either case, the fields AFIID, LOCXREF, LOGDATE, and LOGTIME should always be provided. The SOUNDING (depth to the very bottom of the well at the time of the measurement) should be provided whenever possible.

Column Name	Start - End Positions	Valid Values	Definition
AFIID	1-5	See VV list	Air Force Installation Identification. [A5] Unique code used to represent an Air Force installation, plant or base.
LOCXREF	7-16		Location Cross Reference. [A10] Unique identifier assigned to a location within an Air Force installation where measurements or samples are taken (typically synonymous with monitoring well ID, borehole ID, etc.; e.g. "MW-06"). Location cross references used in previous IRP investigations must be consistently and uniquely coded from one investigation to another. (e.g. "MW-06" in a Stage I investigation should be identified as "MW-06" in Stage 2 and subsequent investigations). Consult AFOEHL on the proper entries if there are any questions.
LOGDATE	18-26		Date. [DD-MMM-YY] Date that a water level measurement is made.
LOGCODE	28-31	See VV list	Company Code. [A4] Coded value identifying the company performing field tests.
LOGTIME	33-36		Time. [A4] Time of day (HHMM) that a water level measurement is made using 24HR time with no colon.
STATDEP	38-44		Static Water Depth. [XXXX.XX] Depth to water in feet measured from the measuring point (see MPELEV in file BCHWCI) for well under static conditions.
PRODRATE	46-51		Production Rate. [XXXX.X] Pump/purge rate in gal/min at which well is evacuated during GW level measurement. May be left blank for static measurements.
PUMPDEP	53-59		Pumping Level. [XXXX.XX] Lowest dynamic water level depth in feet measured during pumping or purging, relative to the measuring point (see MPELEV in file BCHWCI). Leave blank for static water level measurements.
DEPWAT	61-67		Recovery Depth [XXXX.XX]. Dynamic depth of water after recovery from purge, measured in feet from the measuring point (see MPELEV in file BCHWCI). Leave blank for static measurements.

TABLE 11

Groundwater Level Data File (BCHGWD) (cont.)

Column Name	Start - End Positions	Valid Values	Definition
RECTIME	69-72		Recovery Time [XXXX] Elapsed time in minutes for water level to stabilize or recover to a certain level after purge. [optional]
SOUNDING	74-80		Sounding. [XXXX.XX] Total depth to the bottom of well in feet at time of test, measured from reference point for well (see MPELEV in file BCHWCI).
REMARKS	82-321		Remarks. [A240] Comments or remarks on the groundwater depth measurement, including identification of dry wells.

TABLE 12

Environmental Sampling Information File (BCHSAMP)

This file reports information regarding a water, soil, or environmental sampling event. See Section 2 for an example of how locations, samples, tests, and results are interrelated. Each record in the file provides data about the sampling of one environmental medium at one sampling location. A separate record must be created for each medium, if several environmental media were sampled at one location. For QC samples such as blanks, LOGDATE and LOGTIME must be taken as the time that the QC sample was created.

Column Name	Start - End Positions	Valid Values	Definition
AFIID	1-5	See VV list	Air Force Installation Identification. [A5] Unique code used to represent an Air Force installation, plant or base.
LOCXREF	7-16		Location Cross Reference. [A10] Unique identifier assigned to a location within an Air Force installation where measurements or samples are taken (typically synonymous with monitoring well ID, borehole ID, etc.; e.g. "MW-06"). Location cross references used in previous IRP investigations must be consistently and uniquely coded from one investigation to another. (e.g. "MW-06" in a Stage 1 investigation should be identified as "MW-06" in Stage 2 and subsequent investigations). Consult AFOEHL on the proper entries if there are any questions.
LOGDATE	18-26		Log Date. [DD-MMM-YY] Date that a sample is collected, a field test is performed, or a QC sample is created.
LOGTIME	28-31		Log Time. [A4] Time of day (HHMM) that a sample is collected, a field measurement is made, or a QC sample is created using a 24-hour clock. This field may be left blank with the agreement of AFOEHL.
LOTCTLNUM	33-36		Lot Control Number. [A4] Number denoting a set of samples that comprise an autonomous group of field samples and field QC. See Section 2 for direction and examples of how to assign lot control numbers.
LOGCODE	38-41	See VV list	Logging Company Code. [A4] Coded value identifying the company collecting samples and/or performing field tests.
SBD	43-49		Sample Beginning Depth. [XXXX.XX] The upper depth in feet from the ground surface (i.e. land surface) or surface water surface at which a sample is collected. Note that this value is not measured from the reference point (unless the ground surface happens to be the reference point; see MPELEV in file BCHWCI), even for groundwater samples. All values should be positive. Zero should be entered when depth is not necessary to identify the sample, e.g., for QC blanks and most water samples. A value greater than zero should be entered for groundwater samples if depth is required to identify the sample, e.g., for well with multiple screens where samples are taken at several different depths.
SED	51-57		Sample Ending Depth. [XXXX.XX] Lower depth in feet at which a soil sample is collected for analysis, relative to the ground surface. IMPORTANT: Water or environmental quality samples should have zero in this field, not blanks. Zero should be entered when depth is not necessary to identify the sample or if a discrete groundwater sample is taken at a specific depth in the water column. Sample ending depth (SED) if greater than zero should never be a smaller value than the sample beginning depth (SBD).

TABLE 12

Environmental Sampling Information File (BCHSAMP) (cont.)

Column Name	Start - End Positions	Valid Values	Definition
SMCODE	59-60	See VV list	Sampling Method Code. [A2] Coded value identifying the sampling method used to collect a sample. For QC blanks (or other samples where sampling method is not applicable), use the code NA.
MATRIX	62-63	See VV list	Sampling Matrix. [A2] Coded value identifying the sample medium actually being analyzed, i.e., soil, water, etc. For QC blanks and reference materials, use the codes WQ, SQ, and AQ as specified in the valid value list. For QC replicates and matrix spikes, use the actual matrix of the original sample (see Table 4 in Section 2).
SACODE	65-67	See VV list	Sample Type Code. [A3] Coded value identifying the QC type of sample collected. See Section 2 for further discussion of sample types.

TABLE 13

Sample Preparation Information File (BCHTEST)

This file reports information relating a single sampling event to one or more sample extraction and analysis events. Each record in the file describes a single extraction and analysis event for one environmental medium sampled at one location. Thus, a groundwater sample extracted and analyzed for base-neutral organic compounds, and digested and analyzed for metals, requires two records for data entry. See Section 2 for an example of how locations, samples, tests, and results are interrelated.

Surrogate spike results should be included as part of the regular list of analytes for a test (see Section 2).

Gas chromatographic tests for which the Statement of Work requires confirmation will have at least three entries in BCHTEST. Each test should have a separate entry, e.g., first and second column tests will be entered with PVCCODE of 1C and 2C, respectively. For all confirming tests, an additional entry with PVCCODE of PR must also be made. This entry corresponds to the primary result as judged by the lab. The primary result is often the first column result, but could be the confirming result, e.g., if peaks coelute on the first column. Averaging the first column and confirming results to get the primary result is not allowed.

Column Name	Start - End Positions	Valid Values	Definition
AFIID	1-5	See VV list	Air Force Installation Identification. [A5] Unique code used to represent an Air Force installation, plant or base.
LOCXREF	7-16		Location Cross Reference. [A10] Unique identifier assigned to a location within an Air Force installation where measurements or samples are taken (typically synonymous with monitoring well ID, borehole ID, etc.; e.g. "MW-06"). Location cross references used in previous IRP investigations must be consistently and uniquely coded from one investigation to another. (e.g. "MW-06" in a Stage 1 investigation should be identified as "MW-06" in Stage 2 and subsequent investigations). Consult AFOEHL on the proper entries if there are any questions.
LOGDATE	18-26		Log Date. [DD-MMM-YY] Date that a sample is collected, a field test is performed, or a QC sample is created.
MATRIX	28-29	See VV list	Sampling Matrix. [A2] Coded value identifying the sample medium actually being analyzed, i.e., soil, water, etc. For QC blanks and reference materials, use the codes WQ, SQ, and AQ as specified in the valid value list. For QC replicates and matrix spikes, use the actual matrix of the original sample (see Table 4 in Section 2).
ANMCODE	31-36	See VV list	Analytical Method Code. [A6] Coded value representing the standard method of analysis associated with a given parameter.
LABCODE	38-41	See VV list	Analytical Laboratory Code. [A4] Coded value identifying the analytical laboratory that performed the analysis of a sample. For field tests use the code FLD.
LABSAMPID	43-54		Laboratory Sample Identification. [A12] Identifier assigned to a sample by a laboratory and included in the reporting of the results. Leave blank for field tests.
SACODE	56-58	See VV list	Sample Type Code. [A3] Coded value identifying the QC type of sample collected. See Section 2 for further discussion of sample types.

TABLE 13

Sample Preparation Information File (BCHTEST) (cont.)

Column Name	Start - End Positions	Valid Values	Definition
EXMCODE	60-65	See VV list	Extraction Method Code. [A6] Coded value representing the standard method used to extract/prepare a sample for a particular analysis.
SBD	67-73		Sample Beginning Depth. [XXXX.XX] The upper depth in feet from the ground surface (i.e. land surface) or surface water surface at which a sample is collected. Note that this value is not measured from the reference point (unless the ground surface happens to be the reference point; see MPELEV in file BCHWCI), even for groundwater samples. All values should be positive. Zero should be entered when depth is not necessary to identify the sample, e.g., for QC blanks and most water samples. A value greater than zero should be entered for groundwater samples if depth is required to identify the sample, e.g., for well with multiple screens where samples are taken at several different depths.
SED	75-81		Sample Ending Depth. [XXXX.XX] Lower depth in feet at which a soil sample is collected for analysis, relative to the ground surface. IMPORTANT: Water or environmental quality samples should have zero in this field, not blanks. Zero should be entered when depth is not necessary to identify the sample or if a discrete groundwater sample is taken at a specific depth in the water column. Sample ending depth (SED) if greater than zero should never be a smaller value than the sample beginning depth (SED).
EXTDATE	83-91		Extraction Date. [DD-MMM-YY] Date that an extract/preparation is made from a sample. Leave blank for field tests.
EXTTIME	93-96		Extraction Time. [A4] Time of day (HHMM), using a 24-hour clock, that an extract preparation is made from a sample. [OPTIONAL]
PVCCODE	98-99	See VV list	Parameter Value Classification Code. [A2] Coded value representing whether the parameter is the primary result or a confirming result. Use the code PR for all tests EXCEPT gas chromatographic (GC) tests. See Section 2 for further discussion of parameter value classification codes for GC tests.
ANADATE	101-109		Analysis Date. [DD-MMM-YY] Date that a sample or extract is analyzed in a laboratory.
ANATIME	111-114		Analysis Time. [A4] Time of day (HHMM), using a 24-hour clock, that a laboratory analysis is done on a sample or extract. [OPTIONAL]
LABLOTCTL	116-125		Laboratory Lot Control Number. [A10] The batch designator of an autonomous group of environmental samples and associated QC samples analyzed by a test. This group is equivalent to the EPA SW-846 concept of "Analytical Batch." Leave blank for field tests. See Section 2 for examples.
UNITMEAS	127-136	See VV list (UTMCODE)	Units of Measure. [A10] Units of measure used to report the parameter value. Units do not have to conform to those mandated for the IRP Technical Report. The units should be adjusted to prevent truncation of significant digits for PARVAL in file BCHRES. PARVAL allows only four decimal places; for example, a value entered as 0.00012 mg/kg will be stored as 0.0001 mg/kg. In this example, ug/kg should be used for units, so that the entry of 0.12 ug/kg will be stored without truncation.
BASIS	138-138	See defn.	Basis. [A1] Coded value which indicates whether results are reported on a wet (W) or dry (D) basis. Generally left blank for results except those from tissue or solid samples.

TABLE 14

Analytical Results File (BCHRES)

This file reports analytical results for one or more analytes obtained from a single extraction and testing event. See Section 2 for an example of how locations, samples, tests, and results are interrelated. Each record in the file provides the analytical result for a single analyte. For field analysis of pH, temperature, and conductance, submit only one result each per environmental sampling event; this should be the result recorded closest to the time when the samples were obtained.

All results above the laboratory detection limit should be submitted as if they were quantifiable results. All non-detectable results should be entered with PARVAL = 0 and PARVQ = ND; note that for these records LABDL is of particular importance. Non-detectable results must be entered so that IRPIMS has an affirmative record of environmental contaminants that were checked but not found.

Gas chromatographic tests for which the Statement of Work requires confirmation will have at least three entries for each analyte in BCHRES. Each result should have a separate entry, e.g., first and second column test results will be entered with PVCCODE of 1C and 2C, respectively. For all confirming test results, an additional entry with PVCCODE of PR must also be made. This entry corresponds to the primary result as judged by the lab. The primary result is often the first column result, but could be the confirming result, e.g., if peaks coelute on the first column. Averaging the first column and confirming results to get the primary result is not allowed.

Column Name	Start - End Positions	Valid Values	Definition
AFIID	1-5	See VV list	Air Force Installation Identification. [A5] Unique code used to represent an Air Force installation, plant or base.
LOCXREF	7-16		Location Cross Reference. [A10] Unique identifier assigned to a location within an Air Force installation where measurements or samples are taken (typically synonymous with monitoring well ID, borehole ID, etc.; e.g. "MW-06"). Location cross references used in previous IRP investigations must be consistently and uniquely coded from one investigation to another. (e.g. "MW-06" in a Stage 1 investigation should be identified as "MW-06" in Stage 2 and subsequent investigations). Consult AFOEHL on the proper entries if there are any questions.
LOGDATE	18-26		Log Date. [DD-MMM-YY] Date that a sample is collected, a field test is performed, or a QC sample is created.
MATRIX	28-29	See VV list	Sampling Matrix. [A2] Coded value identifying the sample medium actually being analyzed, i.e., soil, water, etc. For QC blanks and reference materials, use the codes WQ, SQ, and AQ as specified in the valid value list. For QC replicates and matrix spikes, use the actual matrix of the original sample (see Table 4 in Section 2).
ANMCODE	31-36	See VV list	Analytical Method Code. [A6] Coded value representing the standard method of analysis associated with a given parameter.
SACODE	38-40	See VV list	Sample Type Code. [A3] Coded value identifying the QC type of sample collected. See section 2 for further discussion of sample types.

TABLE 14

Analytical Results File (BCHRES) (cont.)

Column Name	Start - End Positions	Valid Values	Definition
EXMCODE	42-47	See VV list	Extraction Method Code. [A6] Coded value representing the standard method used to extract/prepare a sample for a particular analysis.
SBD	49-55		Sample Beginning Depth. [XXXX.XX] The upper depth in feet from the ground surface (i.e. land surface) or surface water surface at which a sample is collected. Note that this value is not measured from the reference point (unless the ground surface happens to be the reference point; see MPELEV in file BCHWCI), even for groundwater samples. All values should be positive. Zero should be entered when depth is not necessary to identify the sample, e.g., for QC blanks and most water samples. A value greater than zero should be entered for groundwater samples if depth is required to identify the sample, e.g., for well with multiple screens where samples are taken at several different depths.
SED	57-63		Sample Ending Depth. [XXXX.XX] Lower depth in feet at which a soil sample is collected for analysis, relative to the ground surface. IMPORTANT: Water or environmental quality samples should have zero in this field, not blanks. Zero should be entered when depth is not necessary to identify the sample or if a discrete groundwater sample is taken at a specific depth in the water column. Sample ending depth (SED) if greater than zero should never a smaller value than the sample beginning depth (SBD).
PVCCODE	65-66	See VV list	Parameter Value Classification Code. [A2] Coded value representing whether the parameter is the primary result or a confirming result. Use the code PR for all results EXCEPT gas chromatographic (GC) results. See Section 2 for further discussion of parameter value classification codes for GC results.
PARLABEL	68-79	See VV list	Parameter Label. [A12] An abbreviated, common acronym representing a parameter/analyte.
PARVQ	81-82	See VV list	Parameter Value Qualifier. [A2] Coded value qualifying analytical results field (PARVAL). This field should be filled in every row; some flags as used by the EPA may be entered in this field.
PARVAL	84-97		Parameter Value. [XXXXXXXXX.XXXX] Actual analytical value for a given parameter (analytical result), reported in units consistent with UNITS in the BCHTEST file.
PARPRC	99-99		Parameter Value Precision. [X] Number of significant digits in the parameter value. [OPTIONAL]
PARUN	101-112		Parameter Value Uncertainty. [XXXXXXX.XXXX] The uncertainty of a measured value due to a measuring technique (expressed as plus or minus some value) [OPTIONAL]
PARUNPRC	114-115		Parameter Value Uncertainty Precision. [XX] Number of significant digits in the parameter uncertainty value. [OPTIONAL]
LABDL	117-125		Laboratory Detection Limit. [XXXX.XXXX] Minimum detectable quantity of a parameter based on laboratory conditions/analytical method, or field conditions. This detection limit should be that which applies specifically to the result given in the same row, and should account for any dilutions done on a sample beyond the normal dilutions called for in the analytical method. This field should be left blank only for results such as pH and temperature that have no detection limit.

TABLE 14

Analytical Results File (BCHRES) (cont.)

Column Name	Start - End Positions	Valid Values	Definition
LABDLPRC	127-127		Laboratory Detection Limit Precision. [X] Number of significant digits in the laboratory detection limit value. This entry must reflect any *dilutions beyond those called for in the analytical method description.* [OPTIONAL]
PQLEVEL	129-137		Practical Quantitation Level. [XXXX.XXXX] Level above which quantitative results may be obtained with a specific degree of confidence. *[OPTIONAL]*
PQLEVELPRC	139-139		Practical Quantitation Level Precision. [X] Number of significant digits in the practical quantitation level. [OPTIONAL]
EXPECTED	141-154		Expected Parameter Value. [XXXXXXXXX.XXXX] The target value for a QC sample. This field is required for all samples having a SACODE other than N. If the SACODE is N, then the field should be left blank. See Table 4 for further guidance on entering values in the EXPECTED field.

TABLE 15

Calculated Hydrologic Parameters File (BCHCALC)

This file reports parameters which are calculated from aquifer tests (pumping or slug/bailer) or tracer tests. The parameters to be reported include effective porosity, hydraulic conductivity, transmissivity, and storativity. They may all be reported in the same file, since they are distinguished by the coded field CALCPARCODE. The fields AFIID, LOCXREF, AND LOGDATE must always be provided.

Column Name	Start - End Positions	Valid Values	Definition
AFIID	1-5	See VV list	Air Force Installation Identification. [A5] Unique code used to represent an Air Force installation (plant or base).
LOCXREF	7-16		Location Cross Reference. [A10] Unique identifier assigned to a location within an Air Force installation where measurements or samples are taken (typically synonymous with monitoring well ID,borehole ID, etc.; e.g. "MW-06"). Location cross references used in previous IRP investigations must be consistently and uniquely coded from one investigation to another. (e.g. "MW-06" in a Stage I investigation should be identified as "MW-06" in Stage 2 and subsequent investigations). Consult AFOEHL on the proper entries if there are any questions.
LOGDATE	18-26		Date. [DD-MMM-YY] Date that the test is performed.
CALCPARCODE	28-32	See VV list	Calculated Parameter Code. [A5] Unique identifier used to indicate which parameter has been derived from aquifer or tracer tests.
PARVAL	34-47		Parameter value. [XXXXXXXXX.XXXX] value of calculated parameter reported in units consistent with UNITMEAS.
UNITMEAS	49-58	See VV list (UTMCODE)	Units of Measure. [A10] Coded value identifying the units of measure for the calculated parameter.

APPENDIX A

VALID VALUE LISTS (VVL)

29 SEP 89

APPENDIX A
INDEX

AFIID	AIR FORCE INSTALLATION
AFP03	AFP NO. 3 TULSA
AFP04	AFP NO. 4 FT WORTH
AFP06	AFP NO. 6 MARIETTA
AFP19	AFP NO. 19 SAN DIEGO
AFP28	AFP NO. 28 EVERETT
AFP29	AFP NO. 29 LYNN
AFP36	AFP NO. 36 EVANDALE
AFP38	AFP NO. 38 PORTER, NY
AFP42	AFP NO. 42 PALMDALE
AFP44	AFP NO. 44 TUCSON
AFP59	AFP NO. 59 JOHNSON CITY
AFP70	AFP NO. 70 FOLSOM
AFP78	AFP NO. 78 CORINNE
AFP83	AFP NO. 83 ALBUQUERQUE
AFP85	AFP NO. 85 COLUMBUS
AFPPJ	AFP PJKS LITTLETON
ACADM	AIR FORCE ACADEMY
ALTUS	ALTUS AFB
AMLGT	AMERICAN LAKE GARDEN TRACT
ANDRN	ANDERSEN AFB
ANDRW	ANDREWS AFB
ANIAK	ANIAK
ANVIL	ANVIL MT. RRS
ARNLD	ARNOLD AFS
BANGR	BANGOR ANGB
BARKS	BARKSDALE AFB
BARNS	BARNES ANG
BARTR	BARTER ISLAND BAR-M
BEALE	BEALE AFB
BEARC	BEAR CREEK RRS
BELLW	BELLOWS AFS
BSTRM	BERGSTROM AFB
BETHL	BETHEL RRS
BIGMT	BIG MOUNTAIN RRS
BIRHM	BIRMINGHAM MAP ANG
BLYTH	BLYTHEVILLE AFB
BOISE	BOISE AIR TERMINAL (GOWEN FLD)
BLLNG	BOLLING AFB
BSWEL	BOSWELL BAY
BRDLY	BRADLEY IAP
BROOK	BROOKS AFB
BCKLY	BUCKLEY ANGB
BRLTN	BURLINGTON ANGB
BYRD	BYRD FIELD
KOHLR	CAMP KOHLER
CAMPN	CAMPION AFS
CANON	CANNON AFB
CANYN	CANYON CREEK RRS
CAPEC	CAPE CANAVERAL AFS
CAPLS	CAPE LISBURNE (LRRS)
CAPNW	CAPE NEWENHAM (LRRS)
CAPRM	CAPE ROMANZOF (LRRS)
CAPSR	CAPE SARICHEF RRS
CAPTL	CAPITAL MAP ANG
CRSWL	CARSWELL AFB
CASTL	CASTLE AFB
CHNTE	CHANUTE AFB
CHRTN	CHARLESTON AFB
CHRLT	CHARLOTTE/DOUGLAS IAP
CHEYN	CHEYENNE MAP ANG
OHARE	CHICAGO O'HARE IAP
CLEAR	CLEAR AFS
COBAY	COLD BAY (LRRS)
CLMBS	COLUMBUS AFB

AFIID	AIR FORCE INSTALLATION
COYLE	COYLE ANG TRAINING ANNEX
DANLY	DANNELLY FIELD ANG
DAVIS	DAVIS-MONTHAN AFB
DESMS	DES MOINES MAP
DOBNS	DOBBINS AFB
DOVER	DOVER AFB
DRFWD	DRIFTWOOD BAY RRS
DULTH	DULUTH IAP
DUNCN	DUNCAN CANAL RRS
DYESS	DYESS AFB
EDWRD	EDWARDS AFB
EGLIN	EGLIN AFB
EILSN	EIELSON AFB
ELLTN	ELLINGTON ANGB
ELSWH	ELLSWORTH AFB
ELMNF	ELMENDORF AFB
ENGLD	ENGLAND AFB
ESHEP	EWVRA SHEPHERD FIELD ANG
FRCHD	FAIRCHILD AFB
FLXMN	FLAXMAN ISLAND POW-3
FORBS	FORBES FIELD ANG
FTMAC	FORT MACARTHUR
FTSMI	FORT SMITH MAP ANG
YUKON	FORT YUKON (LRRS)
FEWRN	FRANCIS E. WARREN AFB
FRSNO	FRESNO ANGB
FTWAY	FT WAYNE MAP
GALNA	GALENA AIRPORT
GENBM	GENERAL BILLY MITCHELL FIELD
GEORG	GEORGE AFB
GKING	GOLD KING CREEK RRS
GDFLW	GOODFELLOW AFB
GRDFK	GRAND FORKS AFB
GRAMT	GRANITE MOUNTAIN RRS
GRFAL	GREAT FALLS IAP ANG
GPEOR	GREATER PEORIA AIRPORT ANG
GWILM	GREATER WILMINGTON AIRPORT
GRFIS	GRIFFISS AFB
GRSSM	GRISSOM AFB
GULFP	GULFPORT MAP ANG TRAINING BASE
HANCK	HANCOCK FIELD
HNSCM	HANSCOM AFB
HECTR	HECTOR FIELD ANG
HICKM	HICKAM AFB
HICKP	HICKAM POL FACILITIES
HILL	HILL AFB
HOLMN	HOLLOMAN AFB
HMSTD	HOMESTEAD AFB
HOONH	HOONAH RRS
HULMN	HULMAN REGIONAL AIRPORT
HRLBT	HURLBURT FIELD
INDMT	INDIAN MOUNTAIN RESEARCH SITE
JCKSN	JACKSON BARRACKS ANG STATION
JCKVL	JACKSONVILLE IAP ANG
JFOSS	JOE FOSS FIELD ANG
KAALA	KAALA AFS
KAENA	KAENA POINT
KALET	KALAKARET CREEK RRS
KANHA	KANAWHA COUNTY AIRPORT
KESLR	KEESLER AFB
KELOG	KELLOGG REGIONAL AIRPORT
KELLY	KELLY AFB

AFIID	AIR FORCE INSTALLATION
KEYFD	KEY FIELD ANG
KISWR	K.I. SAWYER AFB
KNGSN	KING SALMON AFS
KNGSL	KINGSLEY FIELD
KRTLD	KIRTLAND AFB
KOKEE	KOKEE AFS
KOTZB	KOTZEBUE (LRRS)
KULIS	KULIS ANGB
LKLND	LACKLAND AFB
LAMRT	LAMBERT ST LOUIS IAP ANG
LNGLY	LANGLEY AFB
LGHLN	LAUGHLIN AFB
LINCN	LINCOLN MAP
LTLRK	LITTLE ROCK AFB
LONLY	LONELY DEW STATION POW-1
LORNG	LORING AFB
LOSAN	LOS ANGELES AFS
LOWRY	LOWRY AFB
LUKE	LUKE AFB
MACDL	MACDILL AFB
MLMSM	MALMSTROM AFB
MANFD	MANSFIELD LAHM AIRPORT ANG
MARCH	MARCH AFB
MARTN	MARTIN AIRPORT ANG
MATHR	MATHER AFB
MAXWL	MAXWELL AFB
MCHRD	MCCHORD AFB
MCCLN	MCCLELLAN AFB
MCCNL	MCCONNELL AFB
MCNTR	MCENTIRE ANGB
MCGHE	MCGHEE TYSON AIRPORT
MCGRE	MCGUIRE AFB
MEMPH	MEMPHIS IAP
MINNE	MINNEAPOLIS ST. PAUL IAP
MINOT	MINOT AFB
MOODY	MOODY AFB
MOUNT	MOUNTAIN HOME AFB
MURHY	MURPHY DOME (LRRS)
MYRTL	MYRTLE BEACH AFB
NSHVL	NASHVILLE METRO AIRPORT
NELLS	NELLIS AFB
NBSTN	NEW BOSTON AFS
NEWRK	NEWARK AFS
NIGRA	NIAGARA FALLS IAP
NIKKI	NIKOLSKI RRS
NRIVR	NORTH RIVER RRS
NORTN	NORTON AFB
OCEAN	OCEAN CAPE RRS
OFFUT	OFFUTT AFB
OLKTK	OLIKTOK DEW STATION POW-2
OLMSD	OLMSTED AFB
OTIS	OTIS AFB
PTRCK	PATRICK AFB
PEASE	PEASE AFB
PEDRO	PEDRO DOME RRS
PETER	PETERSON AFB
PHELP	PHELPS COLLINS AIRPORT ANG
PHONX	PHOENIX ANG STATION
PITTS	PITTSBURGH IAP
PLTSB	PLATTSBURGH AFB
PNTAR	POINT ARENA AFS

AFIID	AIR FORCE INSTALLATION
PTBAR	POINT BARROW POW-M
PTLAY	POINT LAY LIZ-2
POPE	POPE AFB
HEIDN	PORT HEIDEN RRS
MOLLR	PORT MOLLER RRS
PRTLD	PORTLAND IAP
POTRE	POTRERO HILLS ANNEX
PRICO	PUERTO RICO IAP
PUNAM	PUNAMANO AFS
QUNST	QUONSET STATE AIRPORT ANG
RNDPH	RANDOLPH AFB
REESE	REESE AFB
RENOC	RENO CANNON IAP
RCHRD	RICHARDS GEBAUR AFB
RICKN	RICKENBACKER ANGB
ROBIN	ROBINS AFB
ROSNS	ROSECRANS MEMORIAL AIRPORT
SLTLK	SALT LAKE CITY IAP ANG
SAVNH	SAVANNAH IAP
SCHDY	SCHENECTADY AIRPORT ANG
SCOTT	SCOTT AFB
SLFRD	SELFRIDGE ANGB
SEYMR	SEYMOUR JOHNSON AFB
SHAW	SHAW AFB
SHEMA	SHEMYA AFB
SHPRD	SHEPPARD AFB
SIOUX	SIOUX CITY MAP ANG
SMUGR	SMUGGLERS COVE RRS
SPARN	SPARREVOHN (LRRS)
SPRFD	SPRINGFIELD BECKLEY MAP
STARD	STANDIFORD FIELD ANG
STWRT	STEWART IAP
SUFLK	SUFFOLK COUNTY AIRPORT ANG
SUNNY	SUNNYVALE AFS
SUNGC	SUNSET HILLS GC (OLMSTEAD)
TATLN	TATALINA (LRRS)
TINCY	TIN CITY (LRRS)
TINKR	TINKER AFB
TOLDO	TOLEDO EXPRESS AIRPORT ANG
TRAVS	TRAVIS AFB
TRUAX	TRUAX FIELD
TUCSN	TUCSON IAP
TULSA	TULSA IAP
TYNDL	TYNDALL AFB
UNLET	UNALAKLEET
VANCE	VANCE AFB
VNDBG	VANDENBERG AFB
VLKFD	VOLK FIELD ANGB
WNWRT	WAINWRIGHT LIZ-3
WAKEI	WAKE ISLAND AFB
WSTVR	WESTOVER AFB
WHELR	WHEELER AFB
WHTMN	WHITEMAN AFB
ROGRS	WILL ROGERS WORLD AIRPORT
WILMS	WILLIAMS AFB
WLWGR	WILLOW GROVE ARF
WRGHT	WRIGHT PATTERSON AFB
WURTS	WURTSMITH AFB
YAKGA	YAKATAGA RRS
YAKAT	YAKATAT
YNGTN	YOUNGSTOWN MAP

ANMCODE	ANALYTICAL METHOD NAME
A303A	METALS (BY DIRECT ASPIRATION INTO AN AIR-ACETYLENE FLAME)
A312B	CHROMIUM, HEXAVALENT (COLORIMETRIC METHOD)
A403	ALKALINITY
A405	BROMIDE
A407A	CHLORIDE (ARGENTOMETRIC)
A407B	CHLORIDE (MERCURIC NITRATE METHOD)
A412D	TOTAL CYANIDE (COLORIMETRIC METHOD)
A412E	CYANIDE, BY ION SELECTION ELECTRODE
A412F	CYANIDE, AMENABLE TO CHLORINATION
A413C	FLUORIDE (SPADNS)
A418F	NITROGEN (NITRATE, AUTOMATED CADMIUM REDUCTION METHOD)
A419	NITROGEN (NITRITE)
A424G	PHOSPHATE (ASCORBIC ACID REDUCTION)
A426D	SULFATE (AUTOMATED METHYLTHYMOL BLUE METHOD)
A429	ANIONS BY ION CHROMATOGRAPHY
A506	TOTAL ORGANIC HALIDE (TOX)
A508A	CHEMICAL OXYGEN DEMAND
A509A	ORGANOCHLORINE PESTICIDES
A509B	CHLORINATED PHENOXY ACID HERBICIDES
A701C	GAMMA SPECTRALANALYSIS
A703	GROSS ALPHA-GROSS BETA
A705	TOTAL RADIUM
A706	RADIUM-226
A711	URANIUM
D1385	HYDRAZINE (SPECTROPHOTOMETRIC)
D2216	PERCENT SOLID
D3695	VOLATILE ALCOHOLS IN WATER BY DIRECT AQUEOUS INJECTION GC
E120.1	SPECIFIC CONDUCTANCE
E130.2	HARDNESS, TOTAL (TITRIMETRIC)
E150.1	pH, ELECTROMETRIC
E160.1	FILTERABLE RESIDUE (ALSO KNOWN AS TOTAL DISSOLVED SOLIDS)
E160.2	RESIDUE NON-FILTERABLE
E160.3	RESIDUE, TOTAL GRAVIMETRIC, DRIED AT 103-105 DEG C
E1624	VOLATILE ORGANIC COMPOUNDS BY ISOTOPE DILUTION GC/MS
E1625	SEMIVOLATILE ORGANIC COMPOUNDS BY ISOTOPE DILUTION GC/MS
E170.1	TEMPERATURE
E200.7	INDUCTIVELY COUPLED PLASMA (ICP) METALS SCREEN
E202.1	ALUMINUM
E204.1	ANTIMONY (AA, DIRECT ASPIRATION)
E204.2	ANTIMONY (ATOMIC ABSORPTION, FURNACE TECHNIQUE)
E206.2	ARSENIC (AA, FURNACE)
E206.3	ARSENIC (AA, HYDRIDE)
E208.1	BARIUM (AA, DIRECT ASPIRATION)
E208.2	BARIUM (AA, FURNACE)
E210.1	BERYLLIUM
E213.1	CADMIUM (AA, DIRECT ASPIRATION)
E213.2	CADMIUM (AA, FURNACE)
E215.1	CALCIUM (AA, DIRECT ASPIRATION)
E218.1	CHROMIUM (AA, DIRECT ASPIRATION)
E218.2	CHROMIUM (AA, FURNACE)
E218.5	SOLUBLE CHROMIUM (AA, FURNACE)
E219.2	COBALT (ATOMIC ABSORPTION, FURNACE TECHNIQUE)
E220.1	COPPER (AA, DIRECT ASPIRATION)
E220.2	COPPER (AA, FURNACE)
E236.1	IRON (AA, DIRECT ASPIRATION)
E239.1	LEAD (AA, DIRECT ASPIRATION)
E239.2	LEAD (AA, FURNACE)
E242.1	MAGNESIUM (AA, DIRECT ASPIRATION)
E243.1	MANGANESE (AA, DIRECT ASPIRATION)
E245.1	MERCURY (COLD VAPOR, MANUAL)

ANMCODE	ANALYTICAL METHOD NAME
E245.2	MERCURY (COLD VAPOR, AUTOMATED)
E245.5	MERCURY (COLD VAPOR, SEDIMENTS)
E246.2	MOLYBDENUM (ATOMIC ABSORPTION, FURNACE TECHNIQUE)
E249.1	NICKEL (AA, DIRECT ASPIRATION)
E249.2	NICKEL (AA, FURNACE)
E258.1	POTASSIUM BY (AA, DIRECT ASPIRATION)
E270.1	SELENIUM (AA, DIRECT ASPIRATION)
E270.2	SELENIUM (AA, FURNACE)
E270.3	SELENIUM (AA, HYDRIDE)
E272.1	SILVER (AA, DIRECT ASPIRATION)
E272.2	SILVER (AA, FURNACE)
E273.1	SODIUM (AA, DIRECT ASPIRATION)
E279.1	THALLIUM (AA, DIRECT ASPIRATION)
E279.2	THALLIUM (AA, FURNACE)
E289.1	ZINC (AA, DIRECT ASPIRATION)
E289.2	ZINC (AA, FURNACE)
E300	DETERMINATION OF INORGANIC ANIONS IN WATER BY ION CHROMATOGRAPHY
E310.1	ALKALINITY (TITRIMETRIC)
E310.2	ALKALINITY COLORIMETRIC, METHYL
E325.2	CHLORIDE (AS CL), AUTOMATED FERRICYANIDE, AA II
E325.3	CHLORIDE (TITRIMETRIC, MERCURIC NITRATE)
E335.2	TOTAL CYANIDE
E335.3	TOTAL CYANIDE, COLORIMETRIC METHOD USING AUTOMATED UV
E340.1	FLUORIDE (COLORIMETRIC)
E340.2	FLUORIDE, POTENTIOMETRIC, ION SELECTIVE ELECTRODE
E350.1	NITROGEN (AMMONIA - COLORIMETRIC, AUTOMATED PHENATE)
E350.3	NITROGEN, AMMONIA (POTENTIOMETRIC, IONSELECTIVE ELECTRODE)
E351.2	NITROGEN (KJELDAHL - COLORIMETRIC, SEMI-AUTOMATED BLOCK DIGESTER AA II)
E351.4	NITROGEN, KJELDAHL, TOTAL (POTENTIOMETRIC, IONSELECTIVE ELECTRODE)
E352.1	NITROGEN (NITRATE - COLORIMETRIC, BRUCINE)
E353.1	NITROGEN (NITRATE-NITRITE COLORIMETRIC, AUTOMATED HYDRAZINE REDUCTION
E353.2	NITROGEN (NITRATE-NITRITE COLORIMETRIC, AUTO CAD REDUCTION
E353.3	NITROGEN, NITRATE-NITRITE
E354.1	NITROGEN (NITRITE - SPECTROPHOTOMETRIC)
E360.1	OXYGEN, DISSOLVED (MEMBRANE ELECTRODE)
E365.1	PHOSPHORUS, ALL FORMS (COLORIMETRIC, AUTOMATED ASCORBIC ACID)
E365.2	PHOSPHORUS, ALL FORMS (as P)
E365.3	PHOSPHORUS, ALL FORMS (COLORIMETRIC, ASCORBIC ACID, TWO REAGENT)
E365.4	PHOSPHORUS (AS PO4), TOTAL (COLORIMETRIC, AUTOMATED BLOCK DIGESTOR, AA II)
E375.1	SULFATE, COLORIMETRIC, AUTOMATED CHLORANILATE
E375.2	SULFATE, AUTOMATED METHYL THYMOL BLUE AAII
E375.3	SULFATE (AS SO4), GRAVIMETRIC
E375.4	SULFATE (AS SO4), TURBIDIMETRIC
E410.1	CHEMICAL OXYGEN DEMAND
E410.4	CHEMICAL OXYGEN DEMAND (COLORIMETRIC, AUTOMATED MANUAL)
E413.1	OIL AND GREASE, TOTAL RECOVERABLE (GRAVIMETRIC)
E413.2	OIL AND GREASE, TOTAL RECOVERABLE
E415.1	TOTAL ORGANIC CARBON, COMBUSTION OR OXIDATION
E415.2	TOTAL ORGANIC CARBON (UV PROMOTED, PERSULFATE OXIDATION)
E418.1	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE (SPECTROPHOTOMETRIC IR)
E420.1	PHENOLICS, TOTAL RECOVERABLE (SPECTROPHOTOMETRIC, MANUAL)
E420.2	PHENOLICS (COLORIMETRIC, AUTOMATED 4-AAP WITH DISTILLATION)
E420.3	PHENOLICS, TOTAL RECOVERABLE (SPECTROPHOTOMETRIC, MANUAL 4-AAP)
E501.1	TRIHALOMETHANES
E502.1	VOLATILE HALOGENATED ORGANICS

ANMCODE	ANALYTICAL METHOD NAME
E502.2	VOL ORGANIC COMP (PHOTOIONIZATION & ELECTROLYTIC COND DETECT)
E503.1	VOLATILE AROMATIC AND UNSATURATED ORGANICS
E504	1,2-DIBROMOETHANE (EDB) AND 1,2-DIBROMO-3-CHLOROPROPANE (DBCP)
E524.1	VOLATILE ORGANIC COMPOUNDS IN WATER BY PURGE AND TRAP GC/MS
E524.2	VOLATILE ORGANIC COMP BY PURGE & TRAP CAPILLARY COLUMN GC/MS
E601	PURGEABLE HALOCARBONS
E602	PURGEABLE AROMATICS
E603	ACROLEIN AND ACRYLONITRILE
E604	PHENOLS
E607	NITROSAMINES
E608	ORGANOCHLORINE PESTICIDES AND PCBS
E612	CHLORINATED HYDROCARBONS
E613	2,3,7,8-TETRACHLORODIBENZO-p-DIOXIN
E614	PESTICIDES, ORGANO PHOSPHORUS
E615	CHLORINATED HERBICIDES
E617	DETERMINATION OF CARBOPHENOTHION IN WASTEWATER
E624	PURGEABLES ORGANICS GC/MS
E625	EXTRACTABLE PRIORITY POLLUTANTS (BASE/NEUTRAL AND ACID)
E632	DETERMINATION OF CARBAMATE AND UREA PESTICIDES IN WASTEWATER
EPTOXH	EP TOXICITY-HERBICIDES
EPTOXM	EP TOXICITY-METALS
EPTOXP	EP TOXICITY-PESTICIDES
HNU	FIELD HNU METER READINGS
MD8015	CALIFORNIA MODIFIED SW8015 - HYDROCARBON FINGERPRINT
N7903	ACIDS, INORGANIC
PH_PAP	PH PAPER STRIPS
SW1010	FLASH POINT (CLOSED CUP TESTER)
SW1110	CORROSIVITY TOWARD STEEL
SW1320	MULTIPLE EXTRACTION PROCEDURE
SW3810	HEADSPACE
SW3820	HEXADECANE EXTRACTION AND SCREENING OF PURGEABLE ORGANICS
SW6010	INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPECTROSCOPY
SW7020	ALUMINUM (AA, DIRECT ASPIRATION)
SW7040	ANTIMONY (AA, DIRECT ASPIRATION)
SW7041	ANTIMONY (AA, FURNACE TECHNIQUE)
SW7060	ARSENIC (AA, FURNACE TECHNIQUE)
SW7061	ARSENIC (AA, GASEOUS HYDRIDE)
SW7080	BARIUM (AA, DIRECT ASPIRATION)
SW7090	BERYLLIUM (AA, DIRECT ASPIRATION)
SW7091	BERYLLIUM (AA, FURNACE TECHNIQUE)
SW7130	CADMIUM (FLAME)
SW7131	CADMIUM (FURNACE)
SW7140	CALCIUM (AA, DIRECT ASPIRATION)
SW7190	CHROMIUM (FLAME)
SW7191	CHROMIUM (FURNACE)
SW7195	CHROMIUM, HEXAVALENT (COPRECIPITATION)
SW7196	CHROMIUM, HEXAVALENT (COLORIMETRIC)
SW7197	CHROMIUM, HEXAVALENT (CHELATION/EXTRACTION)
SW7198	CHROMIUM, HEXAVALENT (DIFFERENTIAL PULSE POLAROGRAPHY)
SW7200	COBALT (AA, DIRECT ASPIRATION)
SW7201	COBALT (AA, FURNACE TECHNIQUE)
SW7210	COPPER (FLAME)
SW7211	COPPER (FURNACE)
SW7380	IRON (AA, DIRECT ASPIRATION)
SW7420	LEAD (AA, DIRECT ASPIRATION)
SW7421	LEAD (FURNACE)

ANMCODE	ANALYTICAL METHOD NAME
SW7450	MAGNESIUM (AA, DIRECT ASPIRATION)
SW7460	MANGANESE(AA, DIRECT ASPIRATION)
SW7470	MERCURY IN LIQUID WASTE (MANUAL COLD-VAPOR TECHNIQUE)
SW7471	MERCURY IN SOLID OR SEMISOLID WASTE (MANUAL COLD-VAPOR TECHNIQUE)
SW7480	MOLYBDENUM (AA, DIRECT ASPIRATION)
SW7481	MOLYBDENUM (AA, FURNACE TECHNIQUE)
SW7520	NICKEL (FLAME)
SW7550	OSMIUM (AA, DIRECT ASPIRATION)
SW7610	POTASSIUM (AA, DIRECT ASPIRATION)
SW7740	SELENIUM (AA, FURNACE TECHNIQUE)
SW7741	SELENIUM (AA, GASEOUS HYDRIDE)
SW7760	SILVER (FLAME)
SW7770	SODIUM (AA, DIRECT ASPIRATION)
SW7840	THALLIUM (AA, DIRECT ASPIRATION)
SW7841	THALLIUM (AA, FURNACE TECHNIQUE)
SW7870	TIN (AA, DIRECT ASPIRATION)
SW7910	VANADIUM (AA, DIRECT ASPIRATION)
SW7911	VANADIUM (AA, FURNACE TECHNIQUE)
SW7950	ZINC (FLAME)
SW8010	HALOGENATED VOLATILE ORGANICS
SW8015	NONHALOGENATED VOLATILE ORGANICS
SW8020	AROMATIC VOLATILE ORGANICS
SW8030	ACROLEIN, ACRYLONITRILE, ACETONITRILE
SW8040	PHENOLS
SW8060	PHTHALATE ESTERS
SW8080	ORGANOCHLORINE PESTICIDES AND PCBS
SW8090	NITROAROMATICS AND CYCLIC KETONES
SW8100	POLYNUCLEAR AROMATIC HYDROCARBONS
SW8120	CHLORINATED HYDROCARBONS
SW8140	ORGANOPHOSPHORUS PESTICIDES
SW8150	CHLORINATED HERBICIDES
SW8240	GC/MS METHOD FOR VOLATILE ORGANICS
SW8250	EXTRACTABLE PRIORITY POLLUTANTS (BASE/NEUTRAL AND ACID) PACKED COLUMN TECHNIQUE
SW8270	EXTRACTABLE PRIORITY POLLUTANTS (BASE/NEUTRAL AND ACID) CAPILLARY COLUMN TECHNIQUE
SW8280	POLYCHLORINATED DIBENZO-p-DIOXINS AND DIBENZOFURANS
SW8310	POLYNUCLEAR AROMATIC HYDROCARBONS
SW9010	TOTAL AND AMENDABLE CYANIDE (COLORIMETRIC, MANUAL)
SW9012	TOTAL AND AMENDABLE CYANIDE (COLORIMETRIC, AUTOMATED UV)
SW9020	TOTAL ORGANIC HALIDES (TOX)
SW9022	TOTAL ORGANIC HALIDES (TOX) BY NEUTRON ACTIVATION ANALYSIS
SW9030	SULFIDES
SW9035	SULFATE (COLORIMETRIC, AUTOMATED, CHLORANILATE)
SW9036	SULFATE (COLORIMETRIC, AUTOMATED, METHYLTHYMOL BLUE, AA II)
SW9038	SULFATE (TURBIDIMETRIC)
SW9040	pH ELECTROMETRIC MEASUREMENT
SW9041	pH PAPER METHOD
SW9045	SOIL pH
SW9050	SPECIFIC CONDUCTANCE
SW9060	TOTAL ORGANIC CARBON
SW9065	PHENOLICS (SPECTROPHOTOMETRIC, MANUAL 4-AAP WITH DISTILLATION)
SW9066	PHENOLICS (COLORIMETRIC, AUTOMATED 4-AAP WITH DISTILLATION)
SW9067	PHENOLICS (SPECTROPHOTOMETRIC, MBTH WITH DISTILLATION)

ANMCODE	ANALYTICAL METHOD NAME
SW9070	TOTAL RECOVERABLE OIL & GREASE (GRAVIMETRIC, SEPARATORY FUNNEL EXTR)
SW9071	OIL & GREASE EXTRACTION METHOD FOR SLUDGE SAMPLES
SW9080	CATION-EXCHANGE CAPACITY OF SOILS (AMMONIUM ACETATE)
SW9081	CATION-EXCHANGE CAPACITY OF SOILS (SODIUM ACETATE)
SW9090	COMPATIBILITY TEST FOR WASTES AND MEMBRANE LINERS
SW9095	PAINT FILTER LIQUIDS TEST
SW9100	SATURATED HYDR COND, SAT. LEACHATE COND, AND INTRINSIC PERM
SW9131	TOTAL COLIFORM: MULTIPLE TUBE FERMENTATION TECHNIQUE
SW9132	TOTAL COLIFORM: MEMBRANE FILTER TECHNIQUE
SW9200	NITRATE
SW9250	CHLORIDE (COLORIMETRIC, AUTOMATED FERRICYANIDE AA I)
SW9251	CHLORIDE (COLORIMETRIC, AUTOMATED FERRICYANIDE AA II)
SW9252	CHLORIDE (TITRIMETRIC, MERCURIC NITRATE)
SW9310	GROSS ALPHA & GROSS BETA
SW9315	ALPHA-EMITTING RADIUM ISOTOPES
SW9320	RADIUM-228
USA4B	USATHAMA EXPLOSIVES METHOD (SOIL)
USAD1	USATHAMA EXPLOSIVES METHOD (WATER)

ASTMCODE	ASTM Soil Classification Code
GW	WELL GRADED GRAVELS, GRAVEL-SAND MIXTURES; LITTLE OR NO FINES.
GP	POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES; LITTLE OR NO FINES.
GM	SILTY GRAVELS, POORLY GRADED GRAVEL-SAND-SILT MIXTURES.
GC	CLAYEY GRAVELS, POORLY GRADED GRAVEL-SAND-CLAY MIXTURES
SW	WELL GRADED SANDS, GRAVELLY SANDS; LITTLE OR NO FINES.
SP	POORLY GRADED SANDS, GRAVELLY SANDS; LITTLE OR NO FINES.
SM	SILTY SANDS, POORLY GRADED SAND-SILT MIXTURES.
SC	CLAYEY SANDS, POORLY GRADED SAND-CLAY MIXTURES.
ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS WITH SLIGHT PLASTICITY.
CL	INORGANIC CLAYS OR LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS.
OL	ORGANIC SILTS AND ORGANIC SILT-CLAYS OF LOW PLASTICITY.
MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDY OR SILTY SOILS, ELASTIC SILTS.
CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS.
OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY.
PT	PEAT AND OTHER HIGHLY ORGANIC SOILS.

CALCPARCODE	CALCULATED PARAMETER DEFINITION
NE	Effective Porosity. The part of void space in a rock or deposit that is interconnected and contributes to water flow. Expressed as the ratio: Volume of interconnected void space / Volume of bulk solid. (Dimensionless)
K	Hydraulic Conductivity. Also called permeability. The rate of flow of water through one square foot of an aquifer under prevailing water temperature and a hydraulic gradient of 1:1. Measured in gallons/day/sq ft GPD/FT2 or cubic feet of water/day/sq ft (FT/DAY). May also be expressed as centimeters/sec (CM/SEC).
S	Storativity. The volume of water an aquifer releases or takes into storage per unit surface area per unit change in the component of hydraulic head normal to the surface. (Dimensionless)
T	Transmissivity. The rate of flow of water through a vertical strip of aquifer one foot wide under prevailing water temperature and a hydraulic gradient of 1:1. Measured in cubic feet per day per foot of aquifer (FT2/DAY). A result in gallons per day per foot may converted to cubic feet per day per foot by dividing by 7.48.

CMACODE	WELL CONSTRUCTION MATERIAL
ABS	ACRYLONITRILE BUTADIENE STYRENE (ABS)
BRK	BRICK
CBS	CARBON STEEL
CNC	CONCRETE
COP	COPPER
COS	COATED STEEL
FBG	FIBERGLASS
GLS	GALVANIZED STEEL
LCS	LOW CARBON STEEL
M	OTHER METAL
PLY	POLYPROPYLENE
PVC	POLYVINYL CHLORIDE (PVC)
RST	ROCK OR STONE
SLS	STAINLESS STEEL
STL	STEEL
TFL	TEFLON
TIL	TILE
WD	WOOD
WRI	WROUGHT IRON
Z	OTHER

CMCCODE	BOREHOLE OR TEST PIT CONSTRUCTION METHOD
AR	AIR-ROTARY
B	BORED OR AUGERED
C	CABLE-TOOL
CO	CORING
CS	CHILLED SHOT
D	DUG
DH	DOWN THE HOLE HAMMER
HA	HAND AUGERED
HS	HOLLOW STEM AUGER
J	JETTED
MR	DIRECT CIRCULATION ROTARY, MUD
P	AIR-PERCUSSION
RM	REVERSE CIRCULATION ROTARY, MUD
RW	REVERSE CIRCULATION ROTARY, WATER
SS	SOLID STEM AUGER
T	TRENCHING
V	DRIVEN
W	DRIVE AND WASH
WR	DIRECT CIRCULATION ROTARY, WATER
Z	OTHER

DRLCODE	BOREHOLE DRILLING COMPANY
ACB	A-C BORINGS, INC.
ARDI	ARCTIC RESOURCES DRILLING, INC.
ARRO	ARROW DRILLING CO.
ARRR	ARROW ROAD COMPANY
ATEC	ATEC ASSOCIATES
ATL	ALBUQUERQUE TESTING LABORATORIES, INC
AWWS	ALLEN WATER WELL SERVICE
BAT	BATTELLE COLUMBUS DIVISION
BBDC	BARBER-BRIDGE DRILLING COMPANY
BELK	BILL BELKNAP
BENG	BRAUN ENGINEERING OF MINNEAPOLIS, MN
BLK	J. BEYLIK
BOW	BOWSER-MORNER
BOYL	BOYLES BROTHERS DRILLING CO.
BRKN	E.W. BROCKMAN
CAD	CUSTOM AUGER DRILLING, INC, OF DENVER, COLORADO
CDI	CONSTRUCTION DRILLING INTERNATIONAL OF SALT LAKE CITY, UTAH
CGRT	CHARLES GRANT
CLWT	CALWATER DRILLING
CLYD	CLYDE
CONT	CONTEC, INC.
DAME	DAMES AND MOORE
DAVE	DAVE'S DRILLING
DELT	DELTA GEOTECHNICAL CONSULTANTS, INC.
DGD	D & G DRILLING OF NEW LENOX, ILLINOIS
DLM	D.L. MAHER CO.
DLMV	DELMARVA DRILLING
DVSF	DIVERSIFIED DRILLING
DWB	DIXIE WELL BORING CO.
EBRS	EVANS BROTHERS
EDB	EFFINGER DRILL 7 PUMP SERVICE
EDI	ELSING DRILLING, INC FROM TWIN FALLS, IDAHO
EFC	ERICKSON-FORD COMPANY OF BOISE, IDAHO
EHR	E.H. RENNER AND SONS
ELI	ENVIRONMENTAL LABORATORIES, INC.
EMPE	EMPIRE SOIL INVESTIGATIONS
EMPS	EMPIRE SOILS, INC OF EDISON, NJ
ESCI	ENGINEERING-SCIENCE OF DENVER, COLORADO
ESE	ENVIRONMENTAL SCIENCE AND ENGINEERING
FOX	FOX AND ASSOCIATES
FSI	FOUNDATION SERVICES, INC.
GMB	GREEN MOUNTAIN BORING
GMC	GEORGE MILLER CONSTRUCTION, INC.
GWD	GRAVES WELL DRILLING CO.
HAKA	HAKALA DRILLING
HFD	H.F. DRILLING
HDSN	J.B. HENDERSON
HH	HARDIN & HUBER
HMS	HENRY MICHAUD AND SONS OF ST. AGATHA, MAINE
JM	J. MASON
JWI	JIM WINNER, INC.
KANS	KANSAS CITY TESTING
KLNF	J. H. KLEINFELDER & ASSOC.
KRNG	KRING DRILLING CO.
LACO	LAYNE ATLANTIC COMPANY
LANO	LAYNE-NORTHERN DRILLING
LAYN	LAYNE WEST
LETC	LAW ENGINEERING TEST CO (LETCO)
LFE	LOUIS F. EVANS
LDTB	LIBERTY DRILLING, TESTING, AND BORING OF OCALA, FL

DRLCODE	BOREHOLE DRILLING COMPANY
MACD	MacDONALD WELL DRILLING, INC.
MAYR	MAYER DRILLING
MDV	MASON - de VERTEUIL, GEOTECHNICAL SERVICES FROM COLUMBUS, OH
MTB	MAINE TEST BORING, INC. OF BREWER, MAINE
MWD	MILSEGER WELL DRILLING CO.
NEBR	NEBRASKA TESTING LABORATORIES
OKDH	OKLAHOMA DEPT. OF HEALTH
ORYL	ORYAL HARDEN OF BOISE, IDAHO
OSTR	OSTERBERG & STEWART, INC.
PBDC	PETERSON BROS. DRILLING CO. INC. OF SALT LAKE CITY, UTAH
PBRS	PENGILLY BROTHERS
PCE	P.C. EXPLORATION
PDI	PIONEER DRILLING, INC. OF REDLANDS, CA
PPEC	PHELPS PUMP EQUIPMENT CO.
PRD	P.R. DRILLING, INC. OF HONOLULU, HAWAII
PT	PAT THOMPSON
PTL	PITTSBURGH TESTING LABS
RABA	RABA-KISTNER
RBG	RBG DRILLING
RCDR	R & C DRILLING COMPANY
RDN	RADIAN CORPORATION
RFW	ROY F. WESTON, INC.
RICE	RICE DRILLING
RMC	ROSCOE-MASS COMPANY
RODG	RODGERS AND COMPANY
ROWE	ROWE DRILLING COMPANY
RWD	RICHARDSON WELL DRILLING, INC.
SAIC	SCIENCE APPLICATIONS INTERNATIONAL CORPORATION
SCP	S.C. PATTERSON
SEC	SOIL EXPLORATION CO.
SEEC	SOIL ENGINEERING AND EXPLORATION COMPANY
SHI	STANG HYDRONICS, INC.
SI	SUBTERRANEAN, INC.
SLAC	SINGER-LAYNE-ATLANTIC COMPANY
SMEI	SOIL AND MATERIAL ENGINEERS, INC. OF COLUMBIA, SC
SRM	S.R. McKINNEY & SONS
STNG	STANG DRILLING & EXPLORATION
SWE	SOUTHWESTERN ENGINEERING
SWL	SOUTHWESTERN LABORATORIES
TECI	TESTING ENGINEERS AND CONSULTANTS, INC. OF TROY, MI
TSC	TESTING SERVICES CORPORATION OF CAROL STREAM, IL
TSTR	TESTER DRILLING
TWD	THOMPSON WELL DRILLING
TWIN	TWIN CITY TESTING, INC.
URM	UNDERGROUND RESOURCES MGMT.
USAC	U.S. ARMY CORPS OF ENGINEERS
USGS	U.S. GEOLOGICAL SURVEY
UURI	UNIVERSITY OF UTAH RESEARCH INSTITUTE
WALT	WALTON DRILLING
WCR	W.C. REILLY
WDI	WEEKS DRILLING, INC. OF SEBASTOPOL, CA
WESS	W.E. STEVENS & SONS
WEST	WESTON SERVICES, INC.
WIN	WINGERTER LABS
WISC	WISCONSIN TEST DRILLING
WNK	WINNEK, INC.
WTD	WRIGHT TEST DRILLING
WTEC	WESTERN TECHNOLOGIES

ESCCODE	COMPANY ESTABLISHING SAMPLING OR MEASURING LOCATION
AERO	AEROVIRONMENT
BAT	BATTELLE COLUMBUS DIVISION
BESD	BIOENV ENG SERVICES DIV. USAF
CHMH	CH2M HILL
CHST	CHESTER ENGINEERS
COE	U.S. ARMY CORPS OF ENGINEERS
DAME	DAMES AND MOORE
EE	ECOLOGY AND ENVIRONMENT, INC.
ESCI	ENGINEERING-SCIENCE
ESE	ENVIRONMENTAL SCIENCE AND ENGINEERING, INC.
EST	EA ENGINEERING SCIENCE & TECHNOLOGY
GMC	GEORGE MILLER CONSTRUCTION, INC.
HART	FRED C. HART ASSOCIATES, INC.
ITC	INTERNATIONAL TECHNOLOGY CORPORATION
JRB	JRB ASSOCIATES
LETC	LAW ENGINEERING TEST CO (LETCO)
LGC	LOCKHEED-GEORGIA CO
LIND	LINDE COMPANY
MCA	MOLZIN-CORBIN & ASSOC.
MRTN	MARTIN MARIETTA
NOAA	N.O.A.A.
OWRB	OKLAHOMA WATER RESOURCES BOARD
RAD	RADIAN CORPORATION
RFW	ROY F. WESTON, INC.
RTI	RESEARCH TRIANGLE INSTITUTE
SAIC	SCIENCE APPLICATIONS INTERNATIONAL
UOK	UNIVERSITY OF OKLAHOMA
USAF	U.S. AIR FORCE
USGS	U.S. GEOLOGICAL SURVEY
UURI	UNIVERSITY OF UTAH RESEARCH INSTITUTE
WARI	WATER AND AIR RESEARCH, INC.
WIL	WILSON AND CO.

EXCCODE	TEST PIT EXCAVATING COMPANY
ESCI	ENGINEERING-SCIENCE
NA	NOT APPLICABLE
RB	MR. RICHARD BUNSICK OF SOUTH DAKOTA, MA
RCI	ROBERT CHILDS, INC OF SOUTH DAKOTA, MA
RFW	ROY F. WESTON, INC.
RHC	R.H. HARRIS CONSTRUCTION OF CARIBOU, MAINE
ROB	ROBINSON CONSTRUCTION COMPANY

EXMCODE	EXTRACTION METHOD
A503	SLUDGE SAMPLES (SOIL, SEDIMENT, SLUDGE)
DISWAT	LEACHING OF ANALYTE FROM SOIL SAMPLES USING DISTILLED WATER
EP TOX	TOXICANT EXTRACTION PROCEDURE
FLDFLT	*FIELD FILTERING FOR DISSOLVED METALS
FLT	FILTERED SAMPLE (0.45 MICRON)
FLTRES	RESIDUE AFTER FILTERING (0.45 MICRON)
METHOD	EXTRACTION METHOD SPECIFIED IN ANALYTICAL METHOD
NONE	NO EXTRACTION REQUIRED FOR THIS METHOD
SW1310	EXTRACTION PROC. (EP) TOX METHOD & STRUCTURAL
SW1320	MULTIPLE EXTRACTION PROCEDURE
SW1330	EXTRACTION PROCEDURE FOR OILY WASTES
SW3005	DIGESTION FOR TOTAL RECOVERABLE METALS FOR FLAME AA AND ICP
SW3010	DIGESTION FOR TOTAL METALS FOR FLAME AA AND ICP
SW3020	DIGESTION FOR TOTAL METALS FOR FURNACE AA
SW3040	DISSOLUTION PROCEDURE FOR OILS, GREASES OR WAXES
SW3050	ACID DIGESTION OF SEDIMENTS, SLUDGES AND SOILS
SW3500	ORGANIC EXTRACTION AND SAMPLE PREPARATION
SW3510	SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION
SW3520	CONTINUOUS LIQUID-LIQUID EXTRACTION
SW3540	SOXHLET EXTRACTION
SW3550	SONICATION EXTRACTION
SW3580	WASTE DILUTION
SW5030	PURGE-AND-TRAP
SW5040	PROTOCOL FOR ANALYSIS OF SORBENT CARTRIDGES FROM VOL ORGANIC
TOTAL	HNO3 DIGESTATION OF UNFILTERED WATERS FOR TOTAL METALS
TOTREC	TOTAL RECOVERABLE DIGESTION OF UNFILTERED SAMPLE FOR METALS

* All dissolved metal tests should use the "FLDFLT" extraction method code. Regardless of the actual digestion method used for the filtrate.

GZCCODE	GEOHYDROLOGIC ZONE OF WELL COMPLETION
?	UNKNOWN
A	AQUIFER
C	LOWER OR CONFINED AQUIFER
L	CONFINING LAYER OR AQUICLUDE
S	SURFACE AQUIFER
U	UNSATURATED ZONE
W	WATER TABLE AQUIFER OR SURFACE AQUIFER

LABCODE	ANALYTICAL LABORATORY
ACU	ACUREX ANALYTICAL LAB
ACUX	ACUREX CORPORATION
AERO	AEROVIRONMENT INC.
APPL	AGRICULTURE & PRIORITY POLLUTANTS
ATI	ANALYTICAL TECHNOLOGIES INC.
BC	BROWN & CALDWELL LAB
BION	BIONETICS
BIOS	BIOSPHERICS
CAFB	CASTLE AIR FORCE BASE
CAL	CALIFORNIA ANALYTICAL LAB
CAWL	CALIFORNIA WATER LABS, INC.
CHM	CH2M HILL
CHMC	CH2M HILL, CORVALLIS OR
CHMD	CH2M HILL, DENVER CO
CHMG	CH2M HILL, GAINESVILLE FL
CHMM	CH2M HILL, MONTGOMERY AL
CHMR	CH2M HILL, REDDING CA
CEP	CONTROLS FOR ENVIRONMENTAL POLLUTION, INC.
DCHM	DATACHEM
DEL	DELMAR ANALYTICAL
EAL	EAL LAB
EAS	ENVIRONMENTAL ANALYTICAL SERVICES (SAN LUIS OBISPO, CA)
ECEN	ECOLOGY AND ENVIRONMENT, INC.
EDE	ENVIRODYNE ENGINEERS, INC.
EIRA	ENVIRONMENTAL INDUSTRIAL RESEARCH ASSOCIATES, INC.
ENSR	ENSECO-ROCKY MOUNTAIN ANALYTICAL, DENVER LAB
ERCO	ERCO/ DIVISION OF ENSECO
ERG	ENVIRONMENTAL RESEARCH GROUP
ESCI	ENGINEERING-SCIENCE
ESE	ESE INC. (ENVIRONMENTAL SCIENCE & ENGINEERING)
ESED	ESE INC., DENVER LAB
ESEG	ESE INC., GAINSEVILLE LAB
ESES	ESE INC., ST. LOUIS LAB
FLD	FIELD ANALYSIS
HET	H,E, AND T INC.
HL	HARMON LABORATORIES
HLTH	CALIFORNIA STATE HEALTH LAB
IEA	INDUSTRIAL & ENVIRONMENTAL ANALYSIS
ITC	INTERNATIONAL TECHNOLOGY CORP.
JRB	JRB ASSOCIATES
LL	LANCASTER LABORATORIES
LTL	LAUCKS TESTING LAB, INC.
MKSN	MCKESSON LABORATORIES
NCL	NORTH COAST LABORATORIES, INC.
OEHL	OEHL BROOKS AIR FORCE BASE
PEI	PEI ASSOCIATES
PTL	PRINCETON TESTING LABS
RAI	RESOURCE ANALYSTS, INC.
RAS	RADIAN ANALYTICAL SERVICES LAB
RASS	RADIAN ANALYTICAL SERVICES-SACRAMENTO
RDL	RESEARCH & DEVELOPMENT LAB
RFW	ROY F. WESTON, INC.
RFWL	ROY F. WESTON, LIONVILLE LAB
RFWS	ROY F. WESTON, STOCKTON LAB
RRC	RIVERBEND RESEARCH CENTER
RTI	RESEARCH TRIANGLE INSTITUTE
SAIC	SCIENCE APPLICATIONS INTERNATIONAL
SLES	SAVANNAH LABORATORIES AND ENVIRONMENTAL SERVICES
TMA	THERMO ANALYTICAL INC.
TSI	TECHNICAL SERVICES, INC.
UBTL	UTAH BIOMEDICAL TESTING LAB
USAF	U.S. AIR FORCE
USDA	U.S. DEPARTMENT OF AGRICULTURE
USGS	U.S. GEOLOGICAL SURVEY
VERS	VERSAR CORPORATION, SPRINGFIELD VA LABS
WAR	WATER AND AIR RESEARCH, INC.

LITHCODE	LITHOLOGY CLASSIFICATION CODE FOR CONSOLIDATED ROCK
VLBA	Basalt, Lava
BREC	Breccia
CHLK	Chalk
CHER	Chert, bedded
CLSN	Claystone
COAL	Coal
CONG	Conglomerate
XLN	Crystalline Igneous or Metamorphic (Undifferentiated)
DOLO	Dolomite
DREF	Drill Bit Refusal
GBBR	Gabbro
GNSS	Gneiss
GRNT	Granite
GRNS	Greenstone
GYPS	Gypsum
IGNS	Igneous (Undifferentiated)
LGNT	Lignite
LS	Limestone
LSDL	Limestone & Dolomite, interbedded
LSSS	Limestone & Sandstone, interbedded
LSSH	Limestone & Shale, interbedded
LSCH	Limestone, cherty
LSCL	Limestone, clayey
LSSD	Limestone, sandy
LSSL	Limestone, silty
MRBL	Marble
META	Metamorphic (Undifferentiated)
MDSN	Mudstone
NDPS	No description provided, problems in sampling
NDUN	No description provided, reasons unknown
OTHR	Other, specify in comment field
QRTZ	Quartzite
RYLT	Rhyolite
SALT	Salt
SS	Sandstone
SSCL	Sandstone, clayey
SSSH	Sandstone & Shale, interbedded
SSSL	Sandstone & Siltstone, interbedded
SSCA	Sandstone, calcareous
SSCR	Sandstone, carbonaceous
SSST	Sandstone, silty
SCHS	Schist
SEDU	Sedimentiary (Undifferentiated)
SHLE	Shale
SLST	Siltstone
SLSH	Siltstone & Shale, interbedded
SLCA	Siltstone, calcareous
SLCR	Siltstone, carbonaceous
SLCL	Siltstone, clayey
SLSS	Siltstone, sandy
SLAT	Slate
VOID	Void or Cavity
VLCU	Volcanic (Undifferentiated)
VLTF	Volcanic Tuff

LITHCODE — LITHOLOGY CLASSIFICATION CODES FOR UNCONSOLIDATED ROCK

BNTN	Bentonite
CLAY	Clay
COBL	Cobble or Boulder
DREF	Drill Bit Refusal
GLDR	Glacial Drift or Undifferentiated Glacial Deposits
GLTL	Glacial Till
GVL	Gravel
GVLB	Gravel, predominantly cobble or boulder-sized
GVLG	Gravel, predominantly granule-sized
GVLP	Gravel, predominantly pebble-sized
HRDP	Hardpan
LOAM	Loam
LOES	Loess
MARL	Marl
NDPS	No description provided, problems in sampling
NDUN	No description provided, reasons unknown
OTHR	Other, describe in comment field
PTHM	Peat, Humus, and other Organic Material
PMFR	Permafrost
SD	Sand
SDCL	Sand & Clay
SDGR	Sand and Gravel
SDSL	Sand and Silt
SDCR	Sand, coarse
SDFN	Sand, fine
SDMD	Sand, medium
SDVC	Sand, very coarse
SDVF	Sand, very fine
UNCS	Sedimentary Deposits, Not Specified
SILT	Silt
STCL	Silt and Clay
VLAS	Volcanic Ash
VLUN	Volcanic Deposits, Undifferentiated
FILL	Fill or other Man-Made Deposits

LOGCODE	SAMPLING OR TESTING COMPANY
ACUX	ACUREX CORPORATION
AERO	AEROVIRONMENT, INC.
APPL	AGRICULTURE & PRIORITY POLLUTANT
ATEC	ATEC ASSOCIATES
AWWS	ALLEN WATER WELL SERVICE
BAT	BATTELLE COLUMBUS DIVISION
BEYL	BEYLIK DRILLING CO.
BOW	BOWSER-MORNER
CAFB	CASTLE AIR FORCE BASE
CAL	CALIFORNIA ANALYTICAL LAB
CAWL	CALIFORNIA WATER LABS, INC.
CHM	CH2M HILL
CLNT	CALWATER DRILLING
DAME	DAMES AND MOORE
DLMV	DELMARVA DRILLING
DWR	DEPT. OF WATER RESOURCES
EAL	EAL LAB
EBRS	EVANS BROTHERS
ECEN	ECOLOGY AND ENVIRONMENT, INC.
EDP	EFFINGER DRILL & PUMP SERVICE
ENVD	ENVIRONMENTAL DRILLING CORP.
ERG	ENVIRONMENTAL RESEARCH GROUP
ESCI	ENGINEERING SCIENCE
ESE	ENVIRONMENTAL SCIENCE & ENGINEERING INC.
FA	FLOOD AND ASSOC.
FLD	FIELD ANALYSIS
FOX	FOX & ASSOCIATES
GAM	GERAGHTY AND MILLER
GTL	GENERAL TESTING LABORATORIES (KANSAS CITY, MO)
HART	FRED C. HART ASSOCIATES, INC.
HET	H, E, AND T INC.
HLTH	CALIFORNIA STATE HEALTH LAB
IEA	INDUSTRIAL & ENVIRONMENTAL ANALYSIS
ITC	INTERNATIONAL TECHNOLOGY CORP.
JM	J. MASON
JRB	JRB ASSOCIATES
JSM	J.S. MURK ENGINEERS
KLNF	J.H. KLEINFELDER & ASSOC.
LACO	LAYNE ATLANTIC CO.
LAYN	LAYNE WEST
LETC	LAW ENGINEERING TEST CO.
LFE	LOUIS F. EVANS
LIND	LINDE COMPANY
LTL	LAUCKS TESTING LAB, INC.
MCA	MOLZIN-CORBIN & ASSOC.
OEHL	OEHL BROOKS AIR FORCE BASE
OKDH	OKLAHOMA DEPARTMENT OF HEALTH
OSTR	OSTERBERG & STEWART, INC.
OWRB	OKLAHOMA WATER RESOURCE BOARD
PEI	PEI ASSOCIATES
PITL	PITTSBURG TESTING LABORATORY
PPEC	PHELPS PUMP EQUIPMENT CO.
PT	PAT THOMPSON

LOGCODE	SAMPLING OR TESTING COMPANY
RAD	RADIAN CORPORATION
RAS	RADIAN ANALYTICAL SERVICES LAB
RASA	RADIAN/SAIC
RDL	RESEARCH & DEVELOPMENT LAB
RFW	ROY F. WESTON
RFWL	ROY F. WESTON, LIONVILLE LAB
RFWS	ROY F. WESTON, STOCKTON LAB
ROWE	ROWE DRILLING CO.
RRC	RIVERBEND RESEARCH CENTER
RTI	RESEARCH TRIANGLE INSTITUTE
SAIC	SCIENCE APPLICATIONS INTERNATIONAL
SBFC	SAN BERNARDINO FLOOD CONTROL
SCS	USDA SOIL CONSERVATION SERVICE
SLAC	SINGER-LAYNE-ATLANTIC CO.
SRM	S.R. McKINNEY & SONS
TCT	TWIN CITY TESTING, INC.
TSI	TECHNICAL SERVICES, INC.
UBTL	UTAH BIOMEDICAL TESTING LAB
UOK	UNIVERSITY OF OKLAHOMA
USAF	U.S. AIR FORCE
USCE	U.S. ARMY CORPS OF ENGINEERS
USDA	U.S. DEPARTMENT OF AGRICULTURE
USGS	U.S. GEOLOGICAL SURVEY
WAR	WATER AND AIR RESEARCH
WS	17TH WEATHER SQUADRON (MAC)
WTRD	WATER DEVELOPMENT

LPRCODE	LOCATION PROXIMITY
I	WITHIN AF INSTALLATION BOUNDARIES
O	OUTSIDE AF INSTALLATION BOUNDARIES

LTCCODE	LOCATION TYPE CLASSIFICATION
BH	BOREHOLE
BR	NON-FIXED LOCATION RECEPTICAL INCLUDING BARRELS AND CONTAINERS
CH	CHANNEL/DITCH
CP	COMPOSITE FROM SEVERAL LOCATIONS
FW	FAUCET/TAP
LH	LEACHATE FROM LANDFILL
LK	LAKE/POND
OC	OUTCROP
RV	RIVER/STREAM
SE	SEEP
SL	SURFACE LOCATION
SP	SPRING
SS	SURFACE SURVEY
SW	STORM WATER
TK	FIXED LOCATION RECEPTICAL INCLUDING TANKS, CONTAINERS, VATS
TP	TEST PIT
WL	WELL
WW	WASTE WATER

MATRIX	SAMPLING MATRIX
AA	AMBIENT AIR
AQ	AIR QUALITY CONTROL MATRIX
AG	SOIL GAS
DC	DRILL CUTTINGS
LD	DRILLING FLUID
LF	FLOATING/FREE PRODUCT ON GROUNDWATER TABLE
LO	OIL, ALL TYPES
SE	SEDIMENT (associated with surface water)
SL	SLUDGE
SO	SOIL
SQ	SOIL QUALITY CONTROL MATRIX
SS	SCRAPINGS
SW	SWAB OR WIPE
TA	ANIMAL TISSUE
TP	PLANT TISSUE
TQ	TISSUE QUALITY CONTROL MATRIX
WD	WELL DEVELOPMENT WATER
WE	ESTUARY
WG	GROUND WATER
WH	EQUIPMENT WASH WATER, I.e. WATER USED FOR WASHING EQUIPMENT
WL	LEACHATE
WO	OCEAN WATER
WP	DRINKING WATER
WQ	WATER QUALITY CONTROL MATRIX
WS	SURFACE WATER
WW	WASTE WATER
WZ	SPECIAL WATER QUALITY CONTROL MATRIX

PARLABEL	ANALYTICAL PARAMETER
ACNP	ACENAPTHENE
ACNPD10	ACENAPTHENE-d10
ACNPY	ACENAPTHYLENE
ACETHYDE	ACETALDEHYDE
ACE	ACETONE
ACCN	ACETONITRILE
ACPHN	ACETOPHENONE
ACAMFL2	2-ACETYLAMINOFLUORENE
ACID	ACIDITY, TOTAL
ACRL	ACROLEIN
ACRAMD	ACRYLAMIDE
ACRN	ACRYLONITRILE
ALACL	ALACHLOR
ALDICARB	ALDICARB (SULFIDE, SULFOXIDE, AND SULFONE)
ALDRIN	ALDRIN
ALKB	ALKALINITY, BICARBONATE (AS CACO3)
ALKC	ALKALINITY, CARBONATE (AS CACO3)
ALKH	ALKALINITY, HYDROXIDE (AS CACO3)
ALK	ALKALINITY, TOTAL (AS CACO3)
CLPE3	ALLYL CHLORIDE
MPEA11	ALPHA, ALPHA DIMETHYLPHENETHYLAMINE
ALPHAU	ALPHA (AS U)
BHCALPHA	ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)
CHLORDANEA	ALPHA-CHLORDANE
ENDOSULFANA	ALPHA ENDOSULFAN
ALPHA	ALPHA, GROSS
TERPINEOL	ALPHA-TERPINEOL
AL	ALUMINUM
PEACET	AMYL ACETATE (MIXED ISOMERS)
PEOH	AMYL ALCOHOL
AMINOBPH4	4-AMINOBIPHENYL (4-BIPHENYLAMINE)
AMINONAPH2	2-AMINONAPHTHALENE (BETA NAPHTHYLAMINE)
ANILINE	ANILINE (PHENYLAMINE AMINOBENZENE)
ANTH	ANTHRACENE
SB	ANTIMONY
SB-124	ANTIMONY-124
SB-125	ANTIMONY-125
ARAMITE	ARAMITE
AS	ARSENIC
ASBESTOS	ASBESTOS
EVAPTRANS	AVERAGE EVAPOTRANSPIRATION
DEWPOINT	AVERAGE DEW POINT (DEGREES F)
AZIPM	AZINPHOS, METHYL (GUTHION)
AZOBENZENE	AZOBENZENE
BA	BARIUM
BA-140	BARIUM-140
BA/LA-140	BARIUM/LANTHANUM-140
BZLDCL	BENZAL CHLORIDE
BZ	BENZENE
BZD	BENZIDINE
BZAA	BENZO(A)ANTHRACENE
BZAP	BENZO(A)PYRENE
BZBF	BENZO(B)FLUORANTHENE
BZGHIP	BENZO(G,H,I)PERYLENE
BZKF	BENZO(K)FLUORANTHENE
BFU23	2,3-BENZOFURAN
BZACID	BENZOIC ACID
BZOTCL	BENZOTRICHLORIDE
BZLAL	BENZYL ALCOHOL
BBP	BENZYL BUTYL PHTHALATE
BE	BERYLLIUM
BHCBETA	BETA BHC (BETA HEXACHLOROCYCLOHEXANE)
BETA	BETA, GROSS

PARLABEL	ANALYTICAL PARAMETER
BETACS	BETA, GROSS (AS CS-137)
BETASR	BETA, GROSS (AS SR-90)
BHC	BHC (HEXACHLOROCYCLOHEXANE) ISOMERS
HCO3	BICARBONATE
BOD5	BIOLOGIC OXYGEN DEMAND, FIVE DAY
BIPHENYL	BIPHENYL (DIPHENYL)
SULPROFOS	BOLSTAR
B	BORON
BR	BROMIDE
BRBZ	BROMOBENZENE
BR1CL2EA	1-BROMO-2-CHLOROETHANE
PR2BRCL	2-BROMO-1-CHLOROPROPANE
BRCLME	BROMOCHLOROMETHANE
BDCME	BROMODICHLOROMETHANE
BR4FBZ	4-BROMOFLUOROBENZENE (1-BROMO-4-FLUOROBENZENE)
TBME	BROMOFORM
BRME	BROMOMETHANE
BPPE4	4-BROMOPHENYL PHENYL ETHER
BTOH	n-BUTANOL
BTACET	n-BUTYL ACETATE
BTACR	n-BUTYL ACRYLATE
BU2OH	sec-BUTYL ALCOHOL
BTCL	n-BUTYL CHLORIDE
BTE	n-BUTYL ETHER
TBUTMEE	tert-BUTYL METHYL ETHER
BTBZN	n-BUTYLBENZENE
BTBZT	t-BUTYLBENZENE
BTHYDE	n-BUTYRALDEHYDE
CD	CADMIUM
CA	CALCIUM
CAPTAN	CAPTAN
CARBAZOLE	CARBAZOLE
CRBFN	CARBOFURAN
C-14	CARBON-14
CO2	CARBON DIOXIDE FREE
CDS	CARBON DISULFIDE
CTCL	CARBON TETRACHLORIDE
NDOC	NONDISSOLVED ORGANIC CARBON
NPOC	NONPURGEABLE ORGANIC CARBON
TOC	TOTAL ORGANIC CARBON
CO3	CARBONATE (AS CO3)
CARBOPHENOTH	CARBOPHENOTHION (TRITHION)
CATION-EX	CATION-EXCHANGE CAPACITY
CE-141	CERIUM-141
CE/PR-144	CERIUM/PRASEODYMIUM-144
CS-134	CESIUM-134
CS-137	CESIUM-137
CHLRL	CHLORAL
CHLORDANE	CHLORDANE
CHLORDANEB	BETA-CHLORDANE
CHLORDANEG	GAMMA-CHLORDANE
CLPYRIFOS	CHLORPYRIFOS
CL	CHLORIDE (AS CL)
CL2	FREE CHLORINE
C4M2PH	4-CHLORO-2-METHYLPHENOL
C4M3PH	4-CHLORO-3-METHYLPHENOL
C2M5PH	2-CHLORO-5-METHYLPHENOL
CLACTH	CHLOROACETALDEHYDE
CLANIL4	4-CHLOROANILINE
CLBZ	CHLOROBENZENE
CLBZD5	CHLOROBENZENE-d5
CLBZLATE	CHLOROBENZILATE

PARLABEL	ANALYTICAL PARAMETER
CLEA	CHLOROETHANE
CLE	CHLOROETHENE
BIS2CEE	bis(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)
CEVETH	2-CHLOROETHYL VINYL ETHER
TCLME	CHLOROFORM
CLHX1	1-CHLOROHEXANE
BIS2CIE	bis(2-CHLOROISOPROPYL) ETHER
CLME	CHLOROMETHANE
CLMME	CHLOROMETHYL METHYL ETHER
CMETHB	bis-CHLOROMETHYLETHER
CNPH2	2-CHLORONAPHTHALENE
CLNPH1	1-CHLORONAPHTHALENE
CLPH2	2-CHLOROPHENOL
CLPH3	3-CHLOROPHENOL
CLPH4	4-CHLOROPHENOL
CPPE4	4-CHLOROPHENYL PHENYL ETHER
PCMC	4-CHLORORESORCINOL
CLBZME2	2-CHLOROTOLUENE
CLBZME4	4-CHLOROTOLUENE
CR3	CHROMIUM (III)
CR6	CHROMIUM, HEXAVALENT
CR	CHROMIUM, TOTAL
CR-51	CHROMIUM-51
CHRYSENE	CHRYSENE
CHRYSENED12	CHRYSENE-d12
CO	COBALT
CO-57	COBALT-57
CO-58	COBALT-58
CO-60	COBALT-60
COD	COD - CHEMICAL OXYGEN DEMAND
COLIF	COLIFORM
COLOR	COLOR
CGI	COMBUSTIBLE GAS INDEX
CU	COPPER
COUMAPHOS	COUMAPHOS
CROTHYDE	CROTONALDEHYDE
CN	CYANIDE
CNA	CYANIDE, AMENABLE TO CHLORINATION
CYHEOH	CYCLOHEXANOL
CYHEKET	CYCLOHEXANONE
CYHEXENE	CYCLOHEXENE
CPHOSPH	CYCLOPHOSPHAMIDE
CYMP	P-CYMENE
24D	2,4-D (DICHLOROPHENOXYACETIC ACID)
DALAPON	DALAPON
24DB	2,4-DB
DDD24	o,p'-DDD
DDD44	p,p'-DDD
DDD	DDD (1,1-BIS(CHLOROPHENYL)-2,2-DICHLOROETHANE)
DDE24	o,p'-DDE
DDE44	p,p'-DDE
DDE	DDE (1,1-BIS(CHLOROPHENYL)-2,2-DICHLOROETHENE)
DDT24	o,p'-DDT
DDT44	p,p'-DDT
DDT	DDT (1,1-BIS(CHLOROPHENYL)-2,2,2-TRICHLOROETHANE)
DDTS	DDT TOTAL
DALAPON	DALAPON
CL10BZ2	DECACHLOROBIPHENYL
C10N	n-DECANE
DECOH	n-DECYL ALCOHOL
BHCDELTA	DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)
DEMETON	DEMETON
DEMETONO	DEMETON-O
DEMETONS	DEMETON-S

PARLABEL	ANALYTICAL PARAMETER
DEWPOINT	AVERAGE DEW POINT (DEGREES F)
DNBP	DI-n-BUTYL PHTHALATE
DNOP	DI-n-OCTYL PHTHALATE
DIACOH	DIACETONE ALCOHOL
DIALLATE	DIALLATE
DIAZ	DIAZINON
DBAJACR	DIBENZ(a,j)ACRIDINE
DBAHA	DIBENZ(a,h)ANTHRACENE
DBF	DIBENZOFURAN
DBT	DIBENZOTHIOPHENE (SYNFUEL)
DBCME	DIBROMOCHLOROMETHANE
DBCP	1,2-DIBROMO-3-CHLOROPROPANE
DBMA	DIBROMOMETHANE
EDB	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)
DBUTYLC	DIBUTYLCHLORENDATE
DICAMBA	DICAMBA
DICHLORAN	DICHLORAN
DCBE14C	cis-1,4-DICHLORO-2-BUTENE
DCBE14T	trans-1,4-DICHLORO-2-BUTENE
DCBZ12	1,2-DICHLOROBENZENE
DCBZ13	1,3-DICHLOROBENZENE
DCBZ14	1,4-DICHLOROBENZENE
DCBZ14D4	1,4-DICHLOROBENZENE-d4
DBZ1214	1,2 & 1,4-DICHLOROBENZENE
DBZD33	3,3-DICHLOROBENZIDINE
DCBTA14	1,4-DICHLOROBUTANE
FC12	DICHLORODIFLUOROMETHANE
FC21	DICHLOROFLUOROMETHANE
DCA11	1,1-DICHLOROETHANE
DCA12	1,2-DICHLOROETHANE
DCA12D4	1,2-DICHLOROETHANE-d4
CL2ETE	DICHLOROETHYL ETHER
DCE11	1,1-DICHLOROETHENE
DCE12C	cis-1,2-DICHLOROETHENE
DCE12T	trans-1,2-DICHLOROETHENE
DCE12TOT	1,2-DICHLOROETHENE, TOTAL
FC21	DICHLOROFLUOROMETHANE
CL2ISOPRE	DICHLORO ISOPROPYL ETHER
DCP23	2,3-DICHLOROPHENOL
DCP24	2,4-DICHLOROPHENOL
DCP25	2,5-DICHLOROPHENOL
DCP26	2,6-DICHLOROPHENOL
DCP34	3,4-DICHLOROPHENOL
DCPROP	DICHLOROPROP
DCPA12	1,2-DICHLOROPROPANE
DCPA13	1,3-DICHLOROPROPANE
DCPA22	2,2-DICHLOROPROPANE
DCP11	1,1-DICHLOROPROPENE
DCP12	1,2-DICHLOROPROPENE
DCP13	1,3-DICHLOROPROPENE
DCP13C	cis-1,3-DICHLOROPROPENE
DCP13T	trans-1,3-DICHLOROPROPENE
DICHLORVOS	DICHLORVOS
DICOFOL	DICOFOL
DIELDRIN	DIELDRIN
DIESELCOMP	DIESEL COMPONENTS
DIETBZ	DIETHYL BENZENE (MIXED ISOMERS)
EE	DIETHYL ETHER (ETHYL ETHER)

PARLABEL	ANALYTICAL PARAMETER
ET2MAL	DIETHYL MALEATE
DEPH	DIETHYL PHTHALATE
ET2SUC	DIETHYL SUCCINATE
DFBZ14	1,4-DIFLUOROBENZENE
DIISOBTOL	DIISOBUTYL CARBINOL
DIISOBTKET	DIISOBUTYL KETONE
DIMETHAT	DIMETHOATE
DMOBZD33	3,3'-DIMETHOXYBENZIDINE
DMPH	DIMETHYL PHTHALATE
PDMAABZ	p-DIMETHYLAMINOAZOBENZENE
DMBZA712	7,12-DIMETHYLBENZ(a)ANTHRACENE
DMBZD33	3,3'-DIMETHYLBENZIDINE
DMP24	2,4-DIMETHYLPHENOL
DN46M	4,6-DINITRO-2-METHYLPHENOL
DNBI3	1,3-DINITROBENZENE
DNBZ14	1,4-DINITROBENZENE
DNP24	2,4-DINITROPHENOL
DNT24	2,4-DINITROTOLUENE
DNT26	2,6-DINITROTOLUENE
DINOSEB	DINOSEB
DIOXANE14	1,4-DIOXANE (P-DIOXANE)
DIOXOLANE	DIOXOLANE
DPA	DIPHENYLAMINE
DPHE	DIPHENYL ETHER (PHENYL ETHER)
DPHY12	1,2-DIPHENYLHYDRAZINE
DPHY24	2,4-DIPHENYLHYDRAZINE
DOC	DISSOLVED ORGANIC CARBON
DO	DISSOLVED OXYGEN
DISUL	DISULFOTON
C22N	n-DOCOSANE
C12N	n-DODECANE
DXYA12	DXYA12
C20N	n-EICOSANE
ENDO	ENDOSULFAN
ENDOSULFANS	ENDOSULFAN SULFATE
ENDOSULFANB	BETA ENDOSULFAN
ENDRIN	ENDRIN
ENDRINALD	ENDRIN ALDEHYDE
ENDRINKET	ENDRIN KETONE
EPN	EPN (ENT)
EPICLHDRN	EPICHLOROHYDRIN
ETHANOL	ETHANOL
ETHION	ETHION
ETHOPROP	ETHOPROP
BTOXETACET	2-(2-BUTOXY) ETHOXYETHYL ACETATE
ETACET	ETHYL ACETATE
ETACACET	ETHYL ACETOACETATE
ETACR	ETHYL ACRYLATE
EMETHACRY	ETHYL METHACRYLATE
EMSULFN	ETHYL METHANESULFONATE
ETMORP	N-ETHYLMORPHOLINE
ET2BTOH	2-ETHYL-1-BUTANOL
ET2HEOH	2-ETHYL-1-HEXANOL
EBZ	ETHYLBENZENE
ET2BTHYDE	2-ETHYLBUTYRALDEHYDE
CL2ETOH	ETHYLENE CHLOROHYDRIN
ETEGLY	ETHYLENE GLYCOL
ETOX	ETHYLENE OXIDE
ET2HEACET	2-ETHYLHEXYL ACETATE
ET2HEACR	2-ETHYLHEXYL ACRYLATE
ET2HEHYDE	2-ETHYLHEXYL ALDEHYDE
BIS2EHP	bis(2-ETHYLHEXYL) PHTHALATE
ETIKET	ETHYLIDENE ACETONE

PARLABEL	ANALYTICAL PARAMETER
FECCOLIFORM	FECAL COLIFORM, 0.7 MICRON FILTER
FECSTREP	FECAL STREPTOCOCCI, KF AGAR
FENSTHION	FENSULFOTHION
FENTHION	FENTHION
FLASHPT	FLASH POINT
FLOWRATE	FLOW RATE
FLA	FLUORANTHENE
FL	FLUORENE
F	FLUORIDE
PHEN2F	2-FLUOROBIPHENYL
PH2F	2-FLUOROPHENOL
FOIL	FUEL OILS
FUEL	FUELS
FURAL	FURFURYL ALCOHOL
BHCGAMMA	GAMMA BHC (LINDANE)
GAMMA	GAMMA, GROSS
GAMMA-GELI	GAMMA SPECTRALANALYSIS, Ge(LI)
GASCOMP	GASOLINE COMPONENTS
GLYACET2	GLYCOL DIACETATE (ETHYLENE GLYCOL DIACETATE)
HARD	HARDNESS (AS CACO3)
HARDNC	HARDNESS (AS CACO3), NONCARBONATE
HARDC	HARDNESS (AS CO3), CARBONATE
HEPTACHLOR	HEPTACHLOR
HEPT-EPOX	HEPTACHLOR EPOXIDE
HPCDD	HEPTACHLORINATED DIBENZO-p-DIOXINS, (TOTAL)
HPCDF	HEPTACHLORINATED DIBENZOFURANS, (TOTAL)
C7N	n-HEPTANE
HXCDD	HEXACHLORINATED DIBENZO-p-DIOXINS, (TOTAL)
HXCDF	HEXACHLORINATED DIBENZOFURANS, (TOTAL)
HPCDD1234678	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-p-DIOXIN
DD1234678C13	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-p-DIOXIN-C13
HXCDD123478	1,2,3,4,7,8-HEXACHLORODIBENZO-p-DIOXIN
DD123678C13	1,2,3,6,7,8-HEXACHLORODIBENZO-p-DIOXIN-C13
HXCDF123478	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN
HCLBZ	HEXACHLOROBENZENE
HCBU	HEXACHLOROBUTADIENE
HCCP	HEXACHLOROCYCLOPENTADIENE
HCLEA	HEXACHLOROETHANE
HCPR	HEXACHLOROPROPENE
C26N	n-HEXACOSANE
C16N	n-HEXADECANE
RDX	HEXAHYDRO-1,3,5-TRINITRO-1,3,5,7-TETRAZOCINE
C6N	n-HEXANE
HEOH	1-HEXANOL
HXO2	2-HEXANONE
HEE	n-HEXYL ETHER
HNU	HNu READINGS
HUMIDAVG	AVERAGE RELATIVE HUMIDITY
HUMIDITY	HUMIDITY, RELATIVE
HUMIDAVHI	MEAN HIGH HUMIDITY
HUMIDAVLO	MEAN LOW HUMIDITY
HUMIDAVPM	MIDDAY AVERAGE RELATIVE HUMIDITY
HUMIDAVAM	MORNING AVERAGE RELATIVE HUMIDITY
HYDRAZINE	HYDRAZINE
HYDFGR	HYDROCARBON FINGERPRINT
HBR	HYDROBROMIC ACID
HCL	HYDROCHLORIC ACID
HF	HYDROFLUORIC ACID
HSD	HYDROGEN SULFIDE DETECTOR
IGNITB	IGNITABILITY
INP123	INDENO(1,2,3-C,D)PYRENE
I	IODINE (AS I)
I-131	IODINE-131
IME	IODOMETHANE (METHYL IODINE)
FE	IRON

PARLABEL	ANALYTICAL PARAMETER
FE-59	IRON-59
ISOBTOH	ISOBUTANOL
ISOBTACET	ISOBUTYL ACETATE
ISODRIN	ISODRIN
ISOOCTOH	ISOOCTANOL (ISOMERS)
ISOP	ISOPHORONE
ISOPROH	ISOPROPANOL
ISOPRYACET	ISOPROPENYL ACETATE
ISOPRACET	ISOPROPYL ACETATE
ISOPRE	ISOPROPYL ETHER
IPBZ	ISOPROPYLBENZENE
ISOSAFR	ISOSAFROLE
KEP	KEPONE
LAI	LANGSELIER INDEX (AT 25 C)
LA-140	LANTHIUM-140
PB	LEAD
PBTE	LEAD, TETRAETHYL
LI	LITHIUM
LEL	LOWER EXPLOSIVE LIMIT
MG	MAGNESIUM
MALA	MALATHION
MN	MANGANESE
MN-54	MANGANESE-54
SNOWMAX	MAXIMUM SNOWFALL
MCPA	MCPA
MCPP	MCPP
HG	MERCURY
MERPHOS	MERPHOS
MESOX	MESITYL OXIDE
MTXYCL	METHOXYCHLOR
CH4	METHANE
BECEM	bis(2-CHLOROETHOXY) METHANE
MEOH	METHANOL
MTPYRLN	METHAPYRILENE
MEACET	METHYL ACETATE
MEACACET	METHYL ACETOACETATE
ME4PE2OH	METHYL AMYL ALCOHOL
MEK	METHYL ETHYL KETONE
MEISOPEKET	METHYL ISOAMYL KETONE
MIBK	METHYL ISOBUTYL KETONE
MMETHACRY	METHYL METHACRYLATE
MMSULFN	METHYL METHANESULFONATE
MEVACET	METHYL VINYL ACETATE
MEPRKET	METHYL n-PROPYL KETONE
MEBZOH	METHYLBENZYL ALCOHOL
MTNPH2	2-METHYLNAPHTHALENE
MBT213	2-METHYL-1,3-BUTADIENE
ME2ET5PYR	2-METHYL-5-ETHYL PYRIDINE
MBSN2	2-METHYLBENZENESULFONAMIDE
MBSC2	2-METHYLBENZENESULFONYLCHLORIDE
MBSC4	4-METHYLBENZENESULFONYLCHLORIDE
MECHLAN3	3-METHYLCHOLANTHRENE
CHEXANEME	METHYLCYCLOHEXANE
CPENTANEME	METHYLCYCLOPENTANE
MB2CAN44	4,4'-METHYLENE-bis (2-CHLOROANILINE)
MTLNCL	METHYLENE CHLORIDE
HEPTANE3ME	3-METHYLHEPTANE
HEXANE3ME	3-METHYLHEXANE
MTNPH1	1-METHYLNAPHTHALENE
MEMORP	N-METHYLMORPHOLENE
ME2PEHYDE	2-METHYLPENTALDEHYDE
PENTANE3ME	3-METHYLPENTANE
MEPH1314	m/p-CRESOL (CRESOLS, m & p)
MEPH2	2-METHYLPHENOL (o-CRESOL)
MEPH3	3-METHYLPHENOL

PARLABEL	ANALYTICAL PARAMETER
MEPH4	4-METHYLPHENOL (p-CRESOL)
MEVINPHOS	MEVINPHOS
MIREX	MIREX
MOIST	MOISTURE, PERCENT
MO	MOLYBDENUM
MO-99	MOLYBDENUM-99
MOIL	MOTOR OILS
DIIM3N	N-(1,1-DIMETHYLETHYL)-3-METHYLBENZAMIDE
NALED	NALED
NAPH	NAPHTHALENE
NAPHD8	NAPHTHALENE-d8
NAPHQ14	1,4-NAPHTHOQUINONE
AMINONAPH1	1-NAPHTHYLAMINE
NI	NICKEL
NB-94	NIOBIUM-94
NB-95	NIOBIUM-95
HNO3	NITRIC ACID
TLDNONT5	5-NITRO-O-TOLUIDINE
NO2ANIL2	2-NITROANILINE
NO2ANIL3	3-NITROANILINE
NO2ANIL4	4-NITROANILINE
NO2BZ	NITROBENZENE
NO2BZD5	NITROBENZENE-D5
NH3N	NITROGEN, AMMONIA (AS N)
KN	NITROGEN, KJELDAHL, TOTAL
NO3N	NITROGEN, NITRATE (AS N)
NO3NO2N	NITROGEN, NITRATE-NITRITE
NO2N	NITROGEN, NITRITE
NTPH2	2-NITROPHENOL
NTPH4	4-NITROPHENOL
NNSBU	N-NITROSO-di-n-BUTYLAMINE
NNSE	N-NITROSODIETHYLAMINE
NNSM	N-NITROSODIMETHYLAMINE
NNSPH	N-NITROSODIPHENYLAMINE
NNSPR	N-NITROSODI-n-PROPYLAMINE
NNSME	NITROSOMETHYLETHYLAMINE
NNSMRPH	N-NITROSOMORPHOLINE
NNSPPRD	N-NITROSOPIPERIDINE
NNSPYRL	N-NITROSOPYRROLIDINE
N2O	NITROUS OXIDE
C9N	n-NONANE
OCDD	OCTACHLORODIBENZO-p-DIOXIN
OCDDC13	OCTACHLORODIBENZO-p-DIOXIN-C13
OCDF	OCTACHLORODIBENZOFURAN
C28N	n-OCTACOSANE
C18N	n-OCTADECANE
C8N	n-OCTANE
OCTOH	n-OCTANOL
HMX	OCTAHYDRO-1,3,5,7-TETRANITRO-1,3,5,7-TETRAZOCINE
OCTENE1	OCTENE-1
OILGREASE	OIL & GREASE, TOTAL REC
OIL	OILS
OVA	ORGANIC VAPOR
OS	OSMIUM
OXYGEN	OXYGEN
CYMP	P-CYMENE (p-iSOPROPYLTOLUENE)
PARALD	PARALDEHYDE
PARAE	PARATHION, ETHYL
PARAM	PARATHION, METHYL
PCB	PCB, TOTAL
PCB1016	PCB-1016 (AROCHLOR 1016)

PARLABEL	ANALYTICAL PARAMETER
PCB1221	PCB-1221 (AROCHLOR 1221)
PCB1224	PCB-1224 (AROCHLOR 1224)
PCB1232	PCB-1232 (AROCHLOR 1232)
PCB1242	PCB-1242 (AROCHLOR 1242)
PCB1248	PCB-1248 (AROCHLOR 1248)
PCB1254	PCB-1254 (AROCHLOR 1254)
PCB1260	PCB-1260 (AROCHLOR 1260)
PCB1262	PCB-1262 (AROCHLOR 1262)
PECDD	PENTACHLORINATED DIBENZO-p-DIOXINS, (TOTAL)
PECDD12347	1,2,3,4,7-PENTACHLORODIBENZO-p-DIOXIN
PECDD12378	1,2,3,7,8-PENTACHLORODIBENZO-p-DIOXIN
DD12378C13	1,2,3,7,8-PENTACHLORODIBENZO-p-DIOXIN-C13
PECDF	PENTACHLORINATED DIBENZOFURANS, (TOTAL)
PECDF12378	1,2,3,7,8-PENTACHLORODIBENZOFURAN
PECLBZ	PENTACHLOROBENZENE
PCLEA	PENTACHLOROETHANE
PECLNO2BZ	PENTACHLORONITROBENZENE
PCP	PENTACHLOROPHENOL
C5N	n-PENTANE
PE23	2,3-PENTANEDIONE
PEOH2	2-PENTANOL
PERDAY1000FT	PERCENT OF DAYS CEILING BELOW 1000 FT
PERDAY500FT	PERCENT OF DAYS CEILING BELOW 500 FT
PERTHANE	PERTHANE
PERYD12	PERYLENE-d12
PHC	PETROLEUM HYDROCARBONS
PH	pH
PHNACTN	PHENACETIN
PHAN	PHENANTHRENE
PHAND10	PHENANTHRENE-d10
PHENOL	PHENOL
TPHENA	PHENOL (ACID FRACTION)
PHD5	PHENOL-d5
PHENOLD6	PHENOL-d6
TOTPHEN	PHENOLICS, TOTAL RECOVERABLE
ANLNAM2	o-PHENYLENEDIAMINE
ANLNAM3	m-PHENYLENEDIAMINE
ANLNAM4	p-PHENYLENEDIAMINE
PHORATE	PHORATE
H3PO4	PHOSPHORIC ACID
PD	PHOSPHORUS, DISSOLVED (AS P)
PDHYDRO	PHOSPHORUS, DISSOLVED HYDROLYZABLE (AS P)
PDORG	PHOSPHORUS, DISSOLVED ORGANIC (AS P)
PDORTHO	PHOSPHORUS, DISSOLVED ORTHOPHOSPHATE (AS P)
P	PHOSPHORUS, TOTAL (AS P)
PHYDRO	PHOSPHORUS, TOTAL HYDROLYZABLE (AS P)
PORG	PHOSPHORUS, TOTAL ORGANIC (AS P)
PORTHO	PHOSPHORUS, TOTAL ORTHOPHOSPHATE (AS P)
PO4	PHOSPHORUS, TOTAL ORTHOPHOSPHATE (AS PO4)
PTHZ	PHTHALAZINONE
PICOLINE2	2-PICOLINE (ALPHA-PICOLINE)
PICOLINE3	3-PICOLINE
PICOLINE4	4-PICOLINE
TNP246	PICRIC ACID
K	POTASSIUM
K-40	POTASSIUM-40
PRECAVG	AVERAGE PRECIPITATION
PRECGT .5	PRECIPITATION > .5 INCHES
PRECGT.01	PRECIPITATION > .01 INCHES
PRECIMONMAX	PRECIPITATION, 1 MONTH MAXIMUM
PRECMX24	PRECIPITATION, 24 HOUR MAXIMUM
PRECDAY	PRECIPITATION, DAYS
PRECDAYSTORM	PRECIPITATION, DAYS WITH THUNDERSTORMS

PARLABEL	ANALYTICAL PARAMETER
PRECMEAN	PRECIPITATION, MEAN
PRECMAX	PRECIPITATION, RECORD MAXIMUM
PRECMIN	PRECIPITATION, RECORD MINIMUM
PRECYR	PRECIPITATION, YEARLY TOTAL
PRONAMD	PRONAMIDE
PACN	PROPANE NITRILE
PROH	n-PROPANOL
PRACET	PROPYL ACETATE
PBZN	n-PROPYLBENZENE
PROPOX	PROPYLENE OXIDE
POC	PURGEABLE ORGANIC CARBONS
PYR	PYRENE
PYRENED10	PYRENE-d10
PYRDN	PYRIDINE
RAD	RADIATION
RA	RADIUM
RA-223	RADIUM-223
RA-224	RADIUM-224
RA-226	RADIUM-226
RA-228	RADIUM-228
RN	RADON
RESTOT	RESIDUE, TOTAL
RONNEL	RONNEL
RU-103	RUTHENIUM-103
RU-106	RUTHENIUM-106
RU/RH-106	RUTHENIUM/RHODIUM-106
SAE1020	SAE TYPE 1020 STEEL, CORROSIVITY
SAFROLE	SAFROLE
BTBZS	SEC-BUTYLBENZENE
SE	SELENIUM
SELFPOT	SELF (SPONTANEOUS) POTENTIAL
SEVIN	SEVIN (CARBARYL)
SIEVE10	SIEVE NO. 10, PERCENT PASSING
SIEVE200	SIEVE NO. 200, PERCENT PASSING
SIEVE4	SIEVE NO. 4, PERCENT PASSING
SIEVE40	SIEVE NO. 40, PERCENT PASSING
SIEVE80	SIEVE NO. 80, PERCENT PASSING
SIL	SILICA
SI	SILICON
AG	SILVER
AG-110M	SILVER-110M (METASTABLE)
SILVEX	SILVEX (2,4,5-TP)
PCSNWGWGT1.5	PRECIPITATION, DAYS SNOWFALL > 1.5 INCHES
CPDAYSNOW	PRECIPITATION, PERCENT DAYS MEASURABLE SNOWFALL
SNOWAVG	AVERAGE SNOWFALL
SNOWDAYS	DAYS WITH SNOW
SNOWMAX24	SNOWFALL, 24 HOUR MAXIMUM
NA	SODIUM
SAR	SODIUM ABSORPTION RATIO
SOLID	SOLIDS, PERCENT
SC	SPECIFIC CONDUCTANCE
STIROFOS	STIROFOS (TETRACHLORVINPHOS)
STROBANE	STROBANE
SR-90	STRONTIUM-90
STY	STYRENE
STYOX	STYRENE OXIDE
SO4	SULFATE (AS SO4)
S	SULFIDE
DS	SULFIDE, DISSOLVED
TS	SULFIDE, TOTAL
H2SO4	SULFURIC ACID
SURFACT	SURFACTANTS
SS	SUSPENDED SOLIDS (residue,non-filterable)
245T	2,4,5-T (TRICHLOROPHENOXYACETIC ACID)

PARLABEL	ANALYTICAL PARAMETER
TEMP	TEMPERATURE
TEMPAVG	AVERAGE TEMPERATURE
TEMPAVGMAX	AVERAGE MAXIMUM TEMPERATURE
TEMPAVGMIN	AVERAGE MINIMUM TEMPERATURE
TEMPDAYMAX	AVERAGE DAILY MAXIMUM TEMPERATURE
TEMPDAYMIN	AVERAGE DAILY MINIMUM TEMPERATURE
TEMPHIGH	TEMPERATURE, RECORD HIGH
TEMPLOW	TEMPERATURE, RECORD LOW
TEMPMAXGT100	AVERAGE NUMBER OF DAYS > 100 DEG F
TEMPMAXGT110	AVERAGE NUMBER OF DAYS > 110 DEG F
TEMPMAXGT65	DAYS WITH MAXIMUM TEMPERATURE > 65 DEG F
TEMPMAXGT80	DAYS WITH MAXIMUM TEMPERATURE > 80 DEG F
TEMPMAXGT85	DAYS WITH MAXIMUM TEMPERATURE > 85 DEG F
TEMPMEANMAX	MEAN MAXIMUM MONTHLY TEMPERATURE
TEMPMEANMIN	MEAN MINIMUM MONTHLY TEMPERATURE
TEMPMINGT65	DAYS WITH MINIMUM TEMPERATURE > 65 DEG F
TEMPMINLT0	DAYS WITH MINIMUM TEMPERATURE < 0 DEG F
TEMPMINLT25	AVERAGE NUMBER OF DAYS < 25 DEG F
TEMPMINLT32	AVERAGE NUMBER OF DAYS < 32 DEG F
PHEND14	TERPHENYL-D14
C4BZ1234	1,2,3,4-TETRACHLOROBENZENE
C4BZ1235	1,2,3,5-TETRACHLOROBENZENE
C4BZ1245	1,2,4,5-TETRACHLOROBENZENE
TC1112	1,1,1,2-TETRACHLOROETHANE
PCA	1,1,2,2-TETRACHLOROETHANE
PCE	TETRACHLOROETHENE (PCE)
TCDD	TETRACHLORINATED DIBENZO-p-DIOXINS, (TOTAL)
TCDD1234	1,2,3,4-TETRACHLORODIBENZO-p-DIOXIN
TCDD1278	1,2,7,8-TETRACHLORODIBENZO-p-DIOXIN
TCDD1289	1,2,8,9-TETRACHLORODIBENZO-p-DIOXIN
TCDD1368	1,3,6,8-TETRACHLORODIBENZO-p-DIOXIN
TCDD1378	1,3,7,8-TETRACHLORODIBENZO-p-DIOXIN
TCDD1379	1,3,7,9-TETRACHLORODIBENZO-p-DIOXIN
TCDD2378	2,3,7,8-TETRACHLORODIBENZO-p-DIOXIN
TCDD2378C13	2,3,7,8-TETRACHLORODIBENZO-p-DIOXIN-C13
TCDF	TETRACHLORINATED DIBENZOFURANS, (TOTAL)
TCDF1278	1,2,7,8-TETRACHLORODIBENZOFURAN
TCDF2378C13	2,3,7,8-TETRACHLORODIBENZOFURAN-C13
TCP2346	2,3,4,6-TETRACHLOROPHENOL
TCP2356	2,3,5,6-TETRACHLOROPHENOL
C24N	n-TETRACOSANE
C14N	n-TETRADECANE
TETRALIN	TETRALIN
TETRYL	TETRYL
TL	THALLIUM
TH-228	THORIUM-228
TH-230	THORIUM-230
TH-232	THORIUM-232
SN	TIN
TOKUTHION	TOKUTHION (PROTHIOFOS)
BZME	TOLUENE
BZMED8	TOLUENE-d8
TLDNOHCL	o-TOLUIDINE HYDROCHLORIDE
TDS	TOTAL DISOLVED SOLIDS (RESIDUE, FILTERABLE)
TOX	TOTAL ORGANIC HALIDES (TOX)
TOX_BR	TOTAL ORGANIC HALIDES (TOX) - BROMINATED
TOX_CL	TOTAL ORGANIC HALIDES (TOX) - CHLORINATED
TOX_I	TOTAL ORGANIC HALIDES (TOX) - IODINATED
THM	TOTAL TRIHALOMETHANES
TOXAP	TOXAPHENE

PARLABEL	ANALYTICAL PARAMETER
TRANAVG	TRANSMISSIVITY
C30N	n-TRIACONTANE
PHEN2BR246	2,4,6-TRIBROMOBIPHENYL
PH246BR	2,4,6-TRIBROMOPHENOL
TCEHP	TRICHLOROETHANOL PHOSPHATE
TCB123	1,2,3-TRICHLOROBENZENE
TCB124	1,2,4-TRICHLOROBENZENE
TCB135	1,3,5-TRICHLOROBENZENE
TCA111	1,1,1-TRICHLOROETHANE
TCA112	1,1,2-TRICHLOROETHANE
TCE	TRICHLOROETHYLENE (TCE)
CL3NATE	TRICHLORONATE
FC113	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE
FC11	TRICHLOROFLUOROMETHANE
TCP236	2,3,6-TRICHLOROPHENOL
TCP245	2,4,5-TRICHLOROPHENOL
TCP246	2,4,6-TRICHLOROPHENOL
TCPR	TRICHLOROPROPANE
TCPR123	1,2,3-TRICHLOROPROPANE
ETOX113BT	1,1,3-TRIETHOXYBUTANE
TFBZME	TRIFLUOROTOLUENE
TRIFLURALIN	TRIFLURALIN
TMB124	1,2,4-TRIMETHYLBENZENE
TMB135	1,3,5-TRIMETHYLBENZENE
TNB135	1,3,5-TRINITROBENZENE
TNT	2,4,6-TRINITROTOLUENE
H-3	TRITIUM (HYDROGEN-3)
TURB	TURBIDITY
C11N	n-UNDECANE
U-234	URANIUM-234
U-235	URANIUM-235
U-238	URANIUM-238
UTOT	URANIUM, TOTAL
V	VANADIUM
VAPPRESSAVG	*AVERAGE VAPOR PRESSURE*
VA	VINYL ACETATE
VC	VINYL CHLORIDE
VBTE	VINYL n-BUTYL ETHER
VETE	VINYL ETHYL ETHER
VISOBTE	VINYL ISOBUTYL ETHER
VSBY1500	AVERAGE PERCENT OF TIME WITH CLOUD CEILING < 1500'
VSBY200	AVERAGE PERCENT OF TIME WITH CLOUD CEILING < 200'
VSBY5000	AVERAGE PERCENT OF TIME WITH CLOUD CEILING < 5000'
WINDAVG	AVERAGE WIND SPEED
WINDDIR	WIND DIRECTION
WINDGT10	TIME WITH WINDS > 10 KNOTS
WINDGT21	TIME WITH WINDS > 21 KNOTS
WINDMAX	PEAK RECORDED WIND SPEED
XYLMP	XYLENE, m & p
XYLENES1213	XYLENES, o & m
XYLENES1214	XYLENES, o & p
XYLM	m-XYLENE
XYLO	o-XYLENE
XYLP	p-XYLENE
ZN	ZINC
ZN-65	ZINC-65
ZINOPHOS	ZINOPHOS
ZR-95	ZIRCONIUM-95

PARVQ PARAMETER VALUE QUALIFIER

<	LESS THAN
=	EQUAL TO
>	GREATER THAN
?	QUESTIONABLE DATA
N	NO PARAMETER VALUE AVAILABLE
ND	NOT DETECTED

PHASE	PHASE DEFINITION
ESI	Expanded Site Inspection
FS	Feasibility Study
LT	Long Term Monitoring (LTM)
NON	Non IRP Study
PA	Preliminary Assessment
PA/SI	Preliminary Assessment/ Site Inspection
P_I	Phase I
P_II	Phase II
P_III	Phase III
P_IV	Phase IV
RA	Remedial Action
RD	Remedial Design
RD/RA	Remedial Design/ Remedial Action (RD/RA)
RI	Remedial Investigation
RI/FS	Remedial Investigation/ Feasibility Study (RI/FS)
ROD	Record of Decision
SI	Site Inspection
TDD	Technical Decision Document

PVCCODE	PARAMETER VALUE CLASSIFICATION
1C	FIRST COLUMN
2C	SECOND COLUMN CONFIRMATION
3C	THIRD COLUMN CONFIRMATION
MS	CONFIRMED BY GC/MS METHOD
PR	PRIMARY RESULT

SACODE	SAMPLE TYPE
AB1	AMBIENT CONDITIONS BLANK #1
AB2	AMBIENT CONDITIONS BLANK #2
AB3	AMBIENT CONDITIONS BLANK #3
AB4	AMBIENT CONDITIONS BLANK #4
AB5	AMBIENT CONDITIONS BLANK #5
AB6	AMBIENT CONDITIONS BLANK #6
AB7	AMBIENT CONDITIONS BLANK #7
AB8	AMBIENT CONDITIONS BLANK #8
AB9	AMBIENT CONDITIONS BLANK #9
AV	AVERAGE OF QA DUPLICATES
BD1	BLANK SPIKE DUPLICATE #1
BD2	BLANK SPIKE DUPLICATE #2
BD3	BLANK SPIKE DUPLICATE #3
BD4	BLANK SPIKE DUPLICATE #4
BD5	BLANK SPIKE DUPLICATE #5
BD6	BLANK SPIKE DUPLICATE #6
BD7	BLANK SPIKE DUPLICATE #7
BD8	BLANK SPIKE DUPLICATE #8
BD9	BLANK SPIKE DUPLICATE #9
BS1	BLANK SPIKE #1
BS2	BLANK SPIKE #2
BS3	BLANK SPIKE #3
BS4	BLANK SPIKE #4
BS5	BLANK SPIKE #5
BS6	BLANK SPIKE #6
BS7	BLANK SPIKE #7
BS8	BLANK SPIKE #8
BS9	BLANK SPIKE #9
BSA	BLANK SPIKE TEN (10)
BSB	BLANK SPIKE ELEVEN (11)
EB1	EQUIPMENT BLANK #1
EB2	EQUIPMENT BLANK #2
EB3	EQUIPMENT BLANK #3
EB4	EQUIPMENT BLANK #4
EB5	EQUIPMENT BLANK #5
EB6	EQUIPMENT BLANK #6
EB7	EQUIPMENT BLANK #7
EB8	EQUIPMENT BLANK #8
EB9	EQUIPMENT BLANK #9
FR1	FIELD REPLICATE/DUPLICATE #1
FR2	FIELD REPLICATE/DUPLICATE #2
FR3	FIELD REPLICATE/DUPLICATE #3
FR4	FIELD REPLICATE/DUPLICATE #4
FR5	FIELD REPLICATE/DUPLICATE #5
FR6	FIELD REPLICATE/DUPLICATE #6
FR7	FIELD REPLICATE/DUPLICATE #7
FR8	FIELD REPLICATE/DUPLICATE #8
FR9	FIELD REPLICATE/DUPLICATE #9
FS	FIELD SPIKE
RM	KNOWN (EXTERNAL REFERENCE MATERIAL)
LB1	LAB BLANK #1
LB2	LAB BLANK #2
LB3	LAB BLANK #3
LB4	LAB BLANK #4

SACODE	SAMPLE TYPE
LB5	LAB BLANK #5
LB6	LAB BLANK #6
LB7	LAB BLANK #7
LB8	LAB BLANK #8
LB9	LAB BLANK #9
LR1	LAB REPLICATE #1
LR2	LAB REPLICATE #2
LR3	LAB REPLICATE #3
LR4	LAB REPLICATE #4
LR5	LAB REPLICATE #5
LR6	LAB REPLICATE #6
LR7	LAB REPLICATE #7
LR8	LAB REPLICATE #8
LR9	LAB REPLICATE #9
MS	LAB MATRIX SPIKE
SD	LAB MATRIX SPIKE DUPLICATE
N	NORMAL ENVIRONMENTAL SAMPLE
RD	REGULATORY DUPLICATE
TB1	TRIP BLANK #1
TB2	TRIP BLANK #2
TB3	TRIP BLANK #3
TB4	TRIP BLANK #4
TB5	TRIP BLANK #5
TB6	TRIP BLANK #6
TB7	TRIP BLANK #7
TB8	TRIP BLANK #8
TB9	TRIP BLANK #9

SAQCODE	SOLE SOURCE AQUIFER NAME
BATX	BISCAYNE AQUIFER, FL
BIA	BASS ISLAND AQUIFER, CATAWBA ISLAND, OH
BIRI	BLOCK ISLAND AQUIFER, RI
BTNY	CLINTON STREET-BALLPARK VALLEY, AQUIFER SYSTEM, BROOME AND TIOGA COUNTIES
BUAS	BURIED VALLEY AQUIFER SYSTEM, OH
BVAS	BURIED VALLEY AQUIFER SYSTEM, NJ
CALA	CHICOT AQUIFER
CCMA	CAPE CODE AQUIFER, MA
CCS	CATTARAUGUS CREEK-SARDINIA, NY
CHPA	CORTLAND-HOMER-PREBLE AQUIFER SYSTEM, NY
CIA	CAMANO ISLAND AQUIFER, WA
CVA	CROSS VALLEY AQUIFER, WA
CVRA	CEDAR VALLEY, RENTON AQUIFER, WA
EATX	EDWARDS AQUIFER, TX
FCCA	FRESNO COUNTY, CA
HAPA	HUNT-ANNAQUATUCKET-PETTAQUAMSCUTT AQUIFER SYSTEM, RI
HAS	HIGHLANDS AQUIFER SYSTEM, NY/NJ
KQNY	KINGS/QUEENS COUNTIES, NY
MIME	MONHEGAN ISLAND, ME
MPA	MARYLAND PIEDMONT AQUIFER, MONTGOMERY, FREDERICK, HOWARD, CARROLL COUNTIES, MD
MVMT	MISSOULA VALLEY AQUIFER, MT
MVRA	MARTHA'S VINEYARD REGIONAL AQUIFER, MA
NAA	NEWBERG AREA AQUIFER, WA
NFDA	NORTH FLORANCE-DUNAL AQUIFER, OR
NG	NORTHERN GUAM, GUAM
NIMA	NANTUCKET ISLAND AQUIFER, MA
NJ15	N.J. FIFTEEN BASIN AQUIFER SYSTEMS, NJ/NY
NJCP	N.J. COASTAL PLAIN AQUIFER, NJ
NSLI	NASSAU/SUFFOLK COUNTIES, LONG ISLAND, NY
OKI	OKI--MIAMI BURIED VALLEY AQUIFER, OH
PBAS	PAWCATUCK BASIN AQUIFER SYSTEM, RI/CT
PCA	PLEASANT CITY AQUIFER, OH
PHVA	PROSPECT HILL AQUIFER, CLARK COUNTY, VA
RNJ	RIDGEWOOD AREA, NY/NJ
SHA	SOUTHERN HILLS AQUIFER SYSTEM, LA/MS
SJA	ST. JOSEPH AQUIFER SYSTEM (ELKART CO), IN
SMCA	SANTA MARGARITA AQUIFER, SCOTTS VALLEY, SANTA CRUZ COUNTY, CA
SNNY	SCHENECTADY/NISKAYUNA, SCHENECTADY, SARATOGA AND ALBANY COUNTIES, NY
SOBA	SOUTHERN OAHU BASAL AQUIFER, NI
SVPA	SEVEN VALLEYS AQUIFER, YORK COUNTY, PA
SVRP	SPOKANE-VALLEY RATHDRUM PRAIRIE AQUIFER, WA-ID
URRB	UPPER ROCKAWAY RIVER BASIN AREA, NJ
USCA	UPPER SANTA CRUZ & AVRA ALTAR BASIN AQUIFERS, AZ
VFA	VOLUSIA-FLORIDAN AQUIFER, FL
WIA	WHIDBEY ISLAND AQUIFER, WA

SMCODE	SAMPLING METHOD
AC	AIR CANISTER
AL	AIR LIFT SAMPLER
AP	AIR LIFT PUMP
AS	ASHING
B	BAILER
BL	UNDISTURBED BULK SAMPLE
BP	GAS OPERATED BLADDER PUMP
C	CONTINUOUS FLIGHT AUGER
CF	FLOW WEIGHTED COMPOSITE
CL	CLOVER LEAF DREDGE SAMPLER
CP	CENTRIFUGAL PUMP
CR	CUTTING RETURNS
CS	COMPOSITE SAMPLE
CT	TIME WEIGHTED COMPOSITE
D	DISTURBED BULK SAMPLE
E1	ELECTRICAL SUBMERSIBLE PUMP (PRE-1982)
E2	ELECTRICAL SUBMERSIBLE PUMP (1982+)
EK	ECKMAN DREDGE SAMPLER
G	GRAB
GD	ELECTRICAL SUBMERSIBLE PUMP (GEAR-DRIVEN)
GP	GAS-OPERATED, DOUBLE ACTING PISTON PUMP
H	HOLLOW STEM AUGER
HB	HAND BUCKET AUGER
HR	ELECTRICAL SUBMERSIBLE PUMP (HELICAL ROTOR)
KS	KEMMERER SAMPLER
NA	NOT APPLICABLE
NQ	NQ WIRELINE ROCK CORING/ASTM-D2113
NX	NX ROCK CORING/ASTM-D2113
PI	PISTON PUMP
PP	PERISTALTIC PUMP
S	DRIVE SAMPLE - 2 INCH/ASTM-D1586
SC	SCRAPED FROM EXPOSED SURFACE
SL	SUCTION LIFT PUMP
SP	SUBMERSIBLE PUMP
SS	SPLIT SPOON
ST	SUBMERSIBLE TURBINE PUMP
SY	SYRINGE
T	SHELBY TUBE/ASTM-D1587
U	TUBE SAMPLER - 3 INCH/ASTM-D3550
VS	VAN DORN SAMPLER
W	SWAB OR WIPE
WF	WELLHEAD FAUCET (GRAB SAMPLE FROM)

STACODE	SITE STATUS
CMP	COMPLETED WORK, INCLUDING REPORT
INP	PHASED FIELD OR ANALYTICAL WORK IN PROCESS
PRE	PRESURVEY UNDERWAY (PHASE 2 ONLY)
RAP	REMEDIAL ACTION PLAN UNDER DEVELOPMENT (PHASE 4 ONLY)
REV	REPORT OR RAP UNDER REVIEW
RQM	REQUIREMENT IDENTIFIED BUT PHASE NOT STARTED

UIMCODE	UNIT OF MEASURE
ACRE FT	ACRE FEET
ACRES	ACRES
BARS	BARS
CFS	CUBIC FEET PER SECOND
CM	CENTIMETERS
CM/HR	CENTIMETERS PER HOUR
CM/SEC	CENTIMETERS PER SECOND
CM/YR	CENTIMETERS PER YEAR
CM2/SEC	SQUARE CENTIMETERS PER SECOND
COL/100ML	COLIFORMS PER 100 MILLILITERS
COLONIES	COLONIES
COUNT/L	COUNT PER LITER
DAY	DAYS
DEG	DEGREES
DEG C	DEGREES CELSIUS
DEG C/HR	DEGREES CELSIUS PER HOUR
DEG F	DEGREES FAHRENHEIT
DOLLARS	DOLLARS
DPY	DRUMS PER YEAR
FIBERS/L	FIBERS PER LITER
FT	FEET
FT/DAY	FEET PER DAY
FT/MIN	FEET SQUARED PER MINUTE (FOR UNITS OF TRANSMISSIVITY)
FT MSL	FEET ABOVE MEAN SEA LEVEL
FT/IN	FEET PER INCH
FT/SEC	FEET PER SECOND
FT2	SQUARE FEET
FT2/DAY	SQUARE FEET PER DAY (CUBIC FEET/DAY-FOOT)
FT3	CUBIC FEET
FT3/YR	CUBIC FEET PER YEAR
G	GRAMS
G/CC	GRAMS PER CUBIC CENTIMETER
G/G	GRAMS PER GRAM
G/L	GRAMS PER LITER
G/ML	GRAMS PER MILLILITER
GAL	GALLONS
GAL/MIN	GALLONS PER MINUTE
GPD	GALLONS PER DAY
GPD/FT	GALLONS PER DAY PER FOOT
GPD/FT2	GALLONS PER DAY PER FOOT SQUARED
GPM/FT	GALLONS PER MINUTE PER FOOT
GPY	GALLONS PER YEAR
HRS	HOURS
HRS/DAY	HOURS PER DAY
IN	INCHES
IN(HG)	INCHES OF MERCURY
IN/DAY	INCHES PER DAY
IN/FT	INCHES PER FOOT
IN/HR	INCHES PER HOUR
IN/IN	INCHES PER INCH
IN/WK	INCHES PER WEEK
IN2/FT	SQUARE INCHES PER FOOT
JTU	JACKSON TURBIDITY UNITS
JCU	JACKSON CANDLE UNITS
KG/1000GAL	KILOGRAMS PER 1000 GALLONS
KG/BATCH	KILOGRAMS PER BATCH

UIMCODE	UNIT OF MEASURE
KG/DAY	KILOGRAMS PER DAY
KG/M3	KILOGRAM PER METER CUBED
KG/M3/S	KILOGRAM PER METER CUBED PER SECOND
KG/S	KILOGRAM PER SECOND
KM2	SQUARE KILOMETERS
KNOTS	KNOTS
L	LITER
LB/1000LB	POUNDS PER THOUSAND POUNDS
LB/BARREL	POUNDS PER BARREL
LB/IN2	POUNDS PER SQUARE INCH
LB/TON	POUNDS PER TON
LBS	POUNDS
LBS/DAY	POUNDS PER DAY
LBS/MON	POUNDS PER MONTH
LBS/YR	POUNDS PER YEAR
M	METER
M/S	METER PER SECOND
M2	METER SQUARED
M2/S	METER SQUARED PER SECOND
M3 X 10(6)	METER CUBED (IN MILLIONS)
M3/KG	METER CUBED PER KILOGRAM
M3/S	METER CUBED PER SECOND
MG/G	MILLIGRAMS PER GRAM
MG/KG	MILLIGRAMS PER KILOGRAM
MG/L	MILLIGRAMS PER LITER
MG/M2	MILLIGRAMS PER SQUARE METER
MG/M2/DAY	MILLIGRAMS PER METER SQUARED PER DAY
MG/M3	MILLIGRAMS PER CUBIC METER (PPBV)
MG/ML	MILLIGRAMS PER MILLILITER
MGAL	MILLION GALLONS
MGD	MILLIONS OF GALLONS PER DAY
MGM	MILLIONS OF GALLONS PER MONTH
MGY	MILLIONS OF GALLONS PER YEAR
MILE2	SQUARE MILES
MILES	MILES
MILL FT3	MILLION FEET CUBED
MILLIVOLTS	MILLIVOLTS
MIN	MINUTES
ML	MILLILITER
ML/L	MILLILITER PER LITER
MM	MILLIMETER
MM/M2/HR	MILLIMETER PER METER SQUARED PER HOUR
MM/YR	MILLIMETER PER YEAR
MON	MONTH
MPH	MILES PER HOUR
NAUT.MILE	NAUTICAL MILE
NG/CC	NANOGRAM PER CUBIC CENTIMETER
NG/L	NANOGRAM PER LITER
NG/M3	NANOGRAM PER CUBIC METER
NONE	NO UNIT OF MEASURE
NTU	NEPHELOMETRIC TURBIDITY UNITS
PCF	POUNDS PER CUBIC FOOT
PCI/G	PICOCURIES PER GRAM
PCI/L	PICOCURIES PER LITER
PER LOSS	PERCENT LOSS
PERCENT	PERCENT
PG	PICOGRAM
PG/G	PICOGRAM PER GRAM
PG/L	PICOGRAM PER LITER
PH UNITS	PH UNITS

UIMCODE	UNIT OF MEASURE
PPB	PARTS PER BILLION
PPM	PARTS PER MILLION
PPMB	PARTS PER MILLION, BENZENE EQUIVALENT (FOR SOIL GAS)
PPMM	PARTS PER MILLION, METHANE EQUIVALENT (FOR SOIL GAS)
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
S	SECOND
TONS/DAY	TONS PER DAY
UG/G	MICROGRAMS PER GRAM
UG/KG	MICROGRAMS PER KILLOGRAM
UG/L	MICROGRAMS/LITER
UG/M3	MICROGRAMS PER CUBIC METER
UG/YR	MICROGRAMS PER YEAR
UMHOS/CM	UMHOS PER CENTIMETER
UPY	UNITS PER YEAR

WCMCODE	WELL COMPLETION METHOD
C	CONCRETE, POROUS
GP	GRAVEL PACK W/PERFORATIONS
GS	GRAVEL PACK W/SCREEN
H	HORIZONTAL GALLERY/COLLECTOR
OE	OPEN-END
OP	OPEN
P	PERFORATED OR SLOTTED
S	SCREEN
SP	SAND POINT
UN	UNKNOWN
W	WALLED OR SHORED
Z	OTHER

WELCODE	WELL OWNER
ALEX	ALEXANDRIA MUNICIPAL WATER DEP
ATWR	ATWATER DISTRICT
CMB	CITY OF MYRTLE BEACH
CWRM	CITY OF WARNER ROBBINS
HRWD	HIGH HILLS RWD
MERC	MERCED IRRIGATION DISTRICT
PRVT	PRIVATELY OWNED WELL
USAF	U.S. AIR FORCE

WICCODE	TYPE OF WELL
ABN	ABANDONED WELL
EXW	EXTRACTION WELL
IJW	INJECTION WELL
IRR	IRRIGATION WELL
LYS	LYSIMETER
MNW	MONITORING WELL
OBS	OBSERVATION WELL
PRG	PURGE WELL
PRW	PRODUCTION WELL (PUBLIC WATER SUPPLY)
PZ	PIEZOMETER
TST	TEST WELL
WPT	WELL POINTS
WSW	WATER SUPPLY WELL (PRIVATE WATER SUPPLY)

☆ U.S. GOVERNMENT PRINTING OFFICE: 1989—761-051 9-00075